Thunder Tiger

ST-1 PRO

1/8 Nitro Powered 4WD Racing Truggy

No.6237-K10

⚠ **Please read all instructions thoroughly before assembling the kit.**

The contents are subject to change without prior notice due to product improvements and specification changes.

INSTRUCTION MANUAL

WARRANTY

Thunder Tiger Corporation guarantees this model kit to be free from defects in both material and workmanship. The total monetary value under warranty will in no case exceed the cost of the original kit purchased. This warranty does not cover any components damaged by use or modification. Part or parts missing from this kit must be reported within 60 days of purchase. No part or parts will be sent under warranty without proof of purchase. To receive part or parts under warranty, the service center must receive a proof of purchase and/or the defective part or parts. Should you find a defective or missing part, contact the authorized Thunder Tiger Service/Distributor nearest you. Under no circumstances can a dealer or distributor accept return of a kit if assembly has started.

INTRODUCTION

Experience a whole new rush that racers have never thought of - pushing this truck to pure competition levels. ST-1 PRO is purpose built to be the fastest truck and provides better handling than any other competition truggy available. With the EB-4 S3, winner of the 2006 1:8 Scale Buggy ROAR National Championship as its base, the ST-1 has the proven bloodlines to dominate the upcoming Truggy race.

This truck has been armed with some no-nonsense competition parts, such as ultra-long suspension arms, and race proven 7075-T6 aluminum chassis for excellent handling. The hardened lightweight suspension pivot ball is another secret formula for winning. An oversized 150cc fuel tank meets ROAR Truggy racing regulations and a large fuel splash guard prevents fueling mistakes to guarantee you victory at the track. Many features worthy of attention are included in this truck such that you don't need to purchase optional parts to bulletproof this truck. To summarize in one word, the ST-1 is the new definition of PERFORMANCE.

CAUTION

Thank you for purchasing a Thunder Tiger Product.

Please read all instructions and familiarize yourself with the products and controls before operation.

1. This product is not a toy. It is a high performance model product. It is important to familiarize yourself with the model, its manual, and its construction before assembly or operation. A child operating under the supervision of the adults is necessary.
2. Always keep this instruction manual ready at your hand for your assembling and operating reference, even after completing the assembly.
3. Make sure all the screws are properly tightened and all the parts are checked after running the car for a long period of time.
4. For the best performance, it is important to make sure all the moveable parts work free without binding.
5. Do not operate model products in rain, on public roads, near crowds, near airport, or near areas with restricted radio operation.
6. Always keep fuel away from heat and open flame. Only operate in open, well-ventilated area. Store fuel in cool, dry area. Keep the fuel bottle cap tightly closed. Clean up any leak or excess fuel before starting the engine.
7. This product, its parts, and its construction tools can be harmful to your health. Always exercise extreme caution when assembling and/or operating this product. Do not touch any part of the model that rotates.
8. Check your radio frequency with the proper operating frequency of the area or country. Always check to see if there are any modelers operating on the same frequency as yours. Also, check your radio for proper operation before operating a model.

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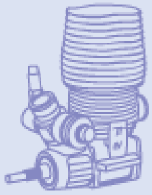
IMPORTANT NOTES & WARNING

FUEL SELECTION

1. Choose a fuel from a reputable, brand name company that is approved for car/truck use. Do not use airplane or boat fuels in your car/truck. Choose methanol based model engine glow fuel that has a nitro content in the range 10%-30% and 5% to 18% caster/synthetic oil content for lubrication. Lower nitro percentages will generally result in a cooler engine running temperature and therefore last longer before needing a rebuild; cooler-running engines also generally produce less power. 20% nitro is the most widely used fuel.
2. Fuel color is for identification purpose only and is not important to performance or durability of your engine.
3. Be careful. If the tank overflows it might get on your radio gear or on your brakes and it may create an unsafe driving situation. Always keep your fuel bottle closed when not in use.
4. Do not dispose of fuel or empty fuel containers in a fire. It may possibly cause fire or explosion.

ENGINE



1. For proper engine break-in procedure, please refer to the manual of your engine.
2. Never run your vehicle without the air filter .If the vehicle will be operated in an area with fine dust, use filter oil or caster oil on the air filter element. It is important that the foam is only moist to trap dirt and allow air passage. With the foam too wet, limited air can pass through; therefore, limiting engine performance.
3. The parts around engine could be dangerously hot after operation. Do not touch it without any protection!

RADIO OPERATION

1. When turning radio on, first turn on the transmitter and extend the transmitter antenna.
2. Then, turn on the receiver. When turning off, first turn the receiver off, then the transmitter off.

FIRST AID

1. If you drink nitro fuel by accident, immediately drink large quantities of water and try to induce vomiting. Consult with physician right after then.
2. If the nitro fuel gets into your eyes, rinse them well with water. Consult with physician right after then.
3. If the fuel gets onto your skin, wash it well with soap and water.

WARNING

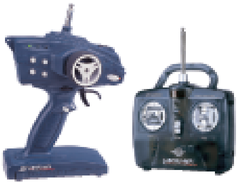
1. Improper operations may cause personal and/or property damage. Thunder Tiger and its distributor have no control over damage resulting from shipping, improper construction, or improper usage.
2. Thunder Tiger assumes and accepts no responsibility for personal and/or property damages resulting from the use of improper building materials, equipment and operations. By the act of assembling or operating this product, the user accepts all resulting liability. If the buyer is not prepared to accept this liability, then he/she should return this kit in new, unassembled, and unused condition to the place of purchase.

ITEMS REQUIRED FOR ASSEMBLY

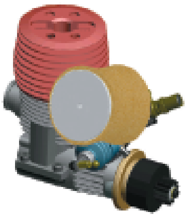
Notice: The following items are required for completion of the ST-1. Some of them are not included with this kit (unless noted), and should be obtained from the local hobby shop nearby you. (For separate purchasing products, please refer to Thunder Tiger professional R/C model products.)

1. ADDITIONAL ITEMS NEEDED FOR COMPLETION

AA-Size Batteries for transmitter / NiCd or NiMh Battery recommended No.2970/2971/2972

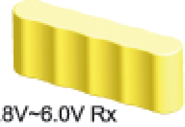


2 Channel Radio Set/ FM/PCM recommended

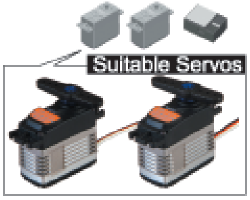


.21-.28 Class Rear Exhaust Engine (Ref: TTR PRO-21B-R Engine No.9474) TTR PRO-28BX Engine No.9477

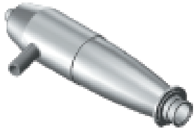
Glow Plug
R1 No.9774
R2 No.9281



4.8V~6.0V Rx Battery Pack recommended (Flat pack) No.2931

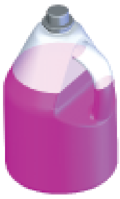


Torque Digital Servo (No.8127, No.8128)

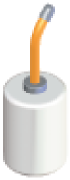


Muffler, Joining Pipe or Manifold & Spring(Ref: TTR Muffler & Manifold EFRA No.9796-1, No.9797-1)

2. ADDITIONAL ITEMS NEEDED FOR STARTING ENGINE



Glow Fuel (Ref: R/C Model Fuel)



Fuel Bottle
No.1266
No.1261

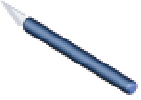
Air Filter Oil

Glow Starter No.2191/2192/2193

Starter Box with AC/DC Power (Ref: TTR Starter Box No.2409)

3. TOOLS NEEDED FOR ASSEMBLY

Phillips type screwdrivers & hex wrenches (Ref: TTR screw Drive Set) No.1136/1137

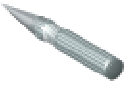


Hobby knife

Needle Nose Pliers

Lexan Cutter/ Scissors No.1304

Wire Cutter



Special Reamer (Ref: TTR Hole Punch/ Reamer No.1120)

4. EQUIPMENT NEEDED FOR ASSEMBLY

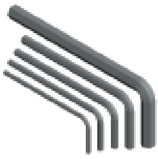
CA Glue

Thread Locking Glue

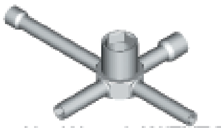
Silicon Oil

Lexan Specific Spray Paint

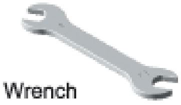
5. TOOLS INCLUDED IN KIT



Hex Wrench
1.5mm, 2mm, 2.5mm, 3mm, 5mm



5-way Nut Wrench W/EXT Tool



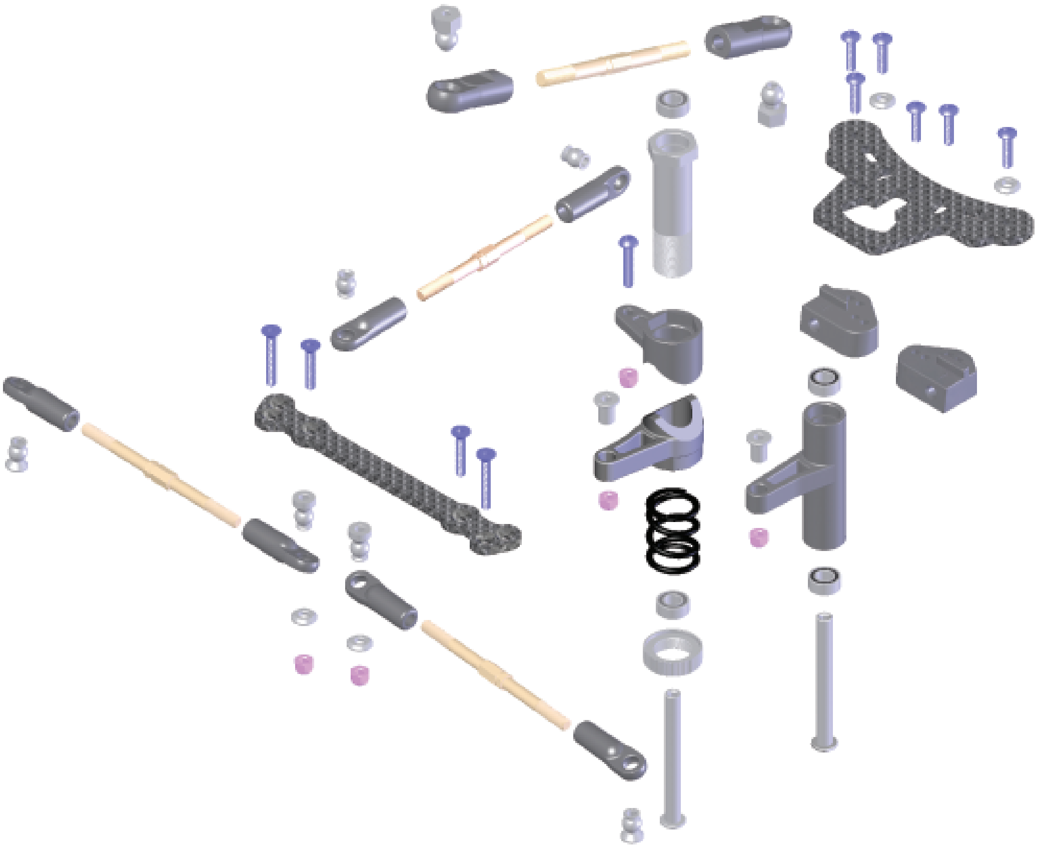
Wrench

6. SYMBOL USED THROUGHOUT THE INSTRUCTION MANUAL

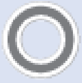
A Part bag used
Apply C.A Glue
Apply Grease
Apply silicon oil
Apply thread locking glue
x2 Assemble two times
L=R Assemble left and right side the same way
1-2-3 Assemble in right order
Drill holes with the specified diameter (mm)
Hint
OP Optional Parts
Cut off shaded portion
Tentatively tighten
Check out non-binding movement
1:1 True-to-scale diagram
NI Must be purchased separately
! Pay attention here
Use pliers
Wire Cutter
Hobby knife

1 STEERING SERVO SAVER

A
bag

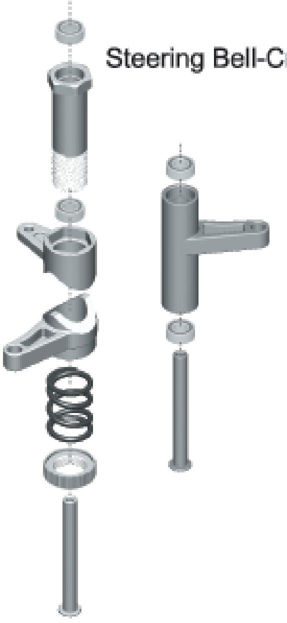


1.1



ø5x10mm
Bearing

1.2

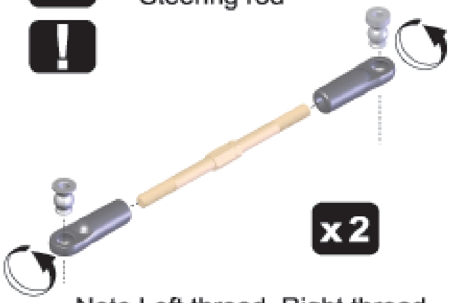


Steering Bell-Crank

L=R

!

Steering rod

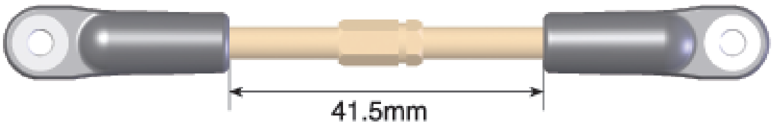


x 2

Note Left thread, Right thread

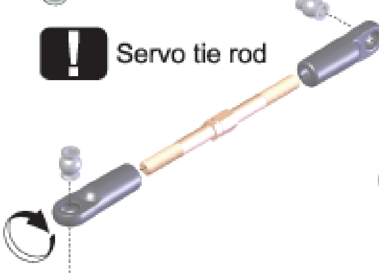
!

1 : 1



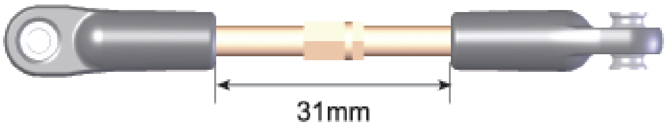
41.5mm

! Servo tie rod



Ball joints must be 90˚ to each other

1 : 1



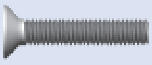
31mm

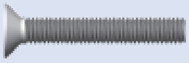
OP

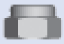
PD1857 ALUM SERVO SAVER SET

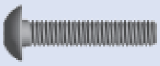
1

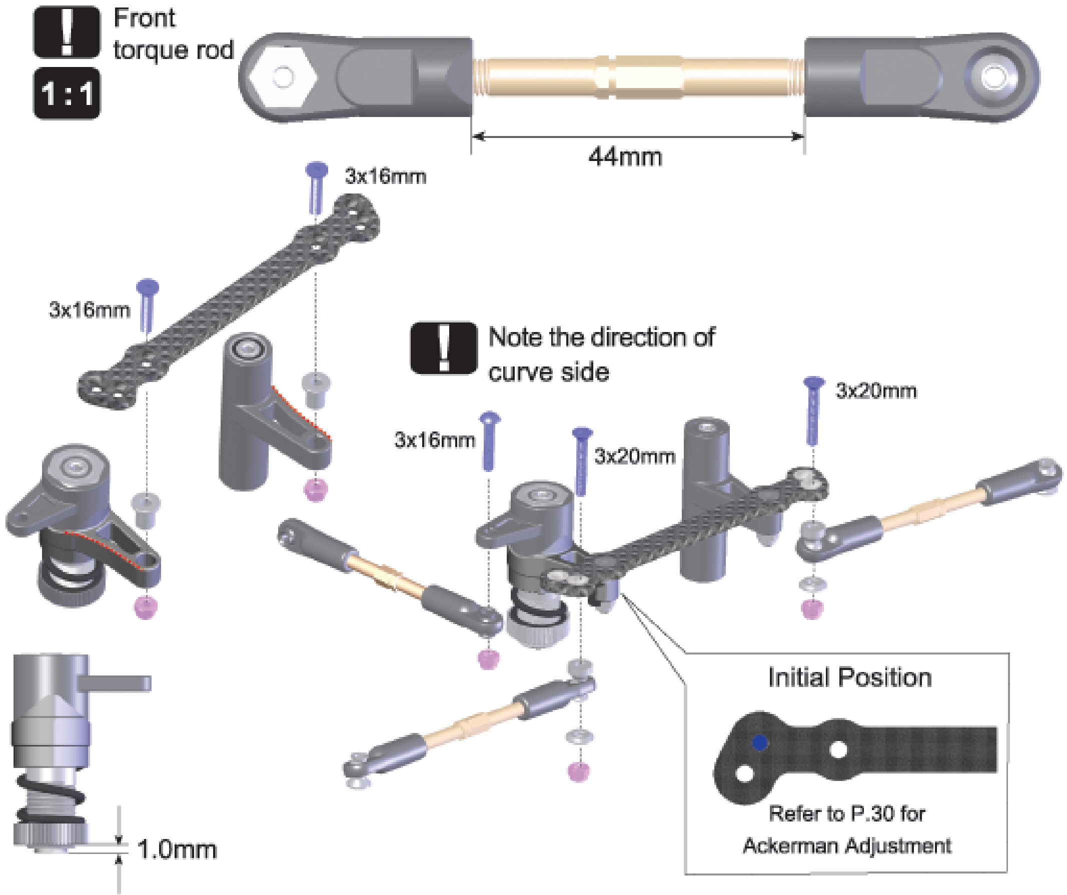
1.3


M3x16mm
Flat Head Hex Screw


M3x20mm
Flat Head Hex Screw


Lock Nut, M3


M3x16mm
Button Head Hex Screw


1:1
44mm
3x16mm
3x16mm
3x16mm
3x20mm
3x20mm
1.0mm

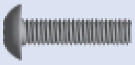
Front torque rod

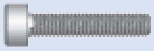
Note the direction of curve side

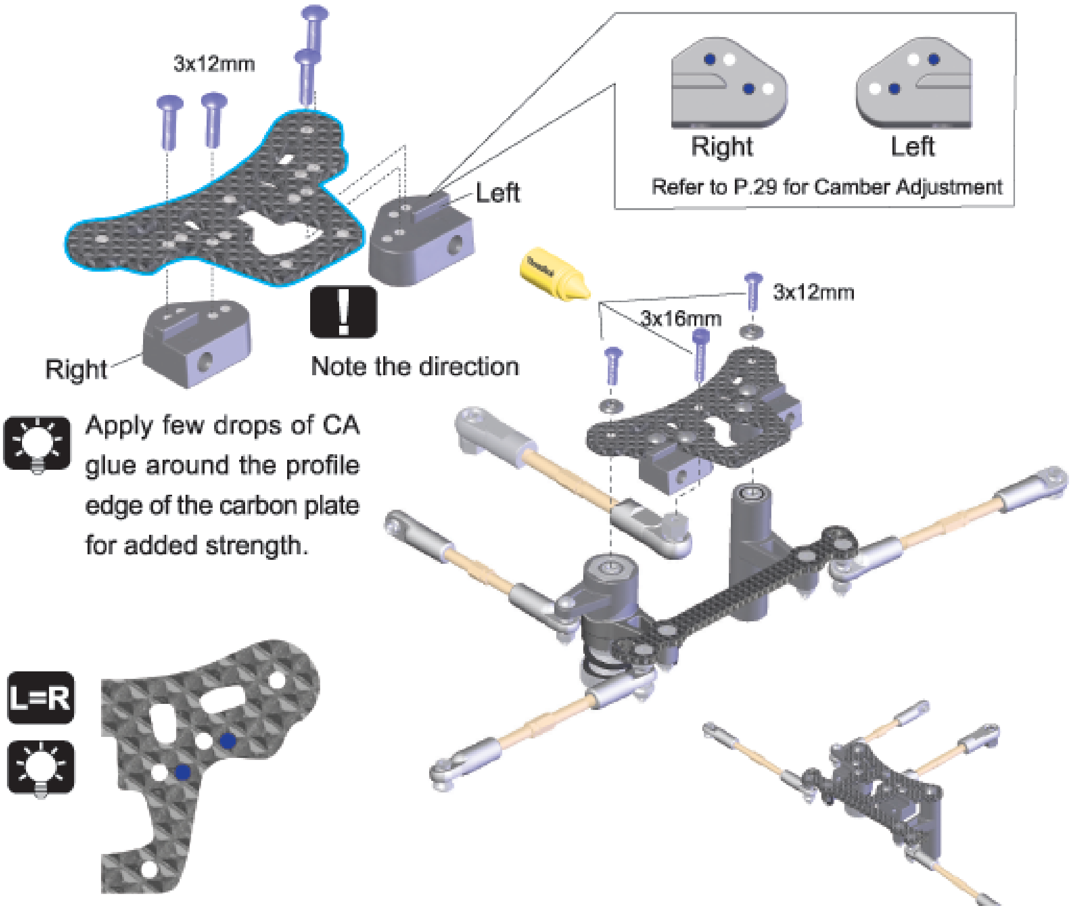
Initial Position

Refer to P.30 for Ackerman Adjustment

1.4


M3x12mm
Button Head Hex Screw


M3x16mm
Socket Head Hex Screw


3x12mm
Left
Right
Right
Left
3x12mm
3x16mm
L=R

Refer to P.29 for Camber Adjustment

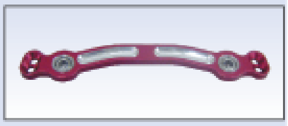
Note the direction

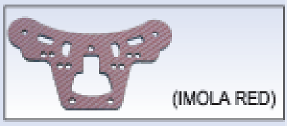
Apply few drops of CA glue around the profile edge of the carbon plate for added strength.

Initial Position

Refer to P.29 for Camber Adjustment

OP


PD2315 **A7075 LITE ST SLIDER W/BB**

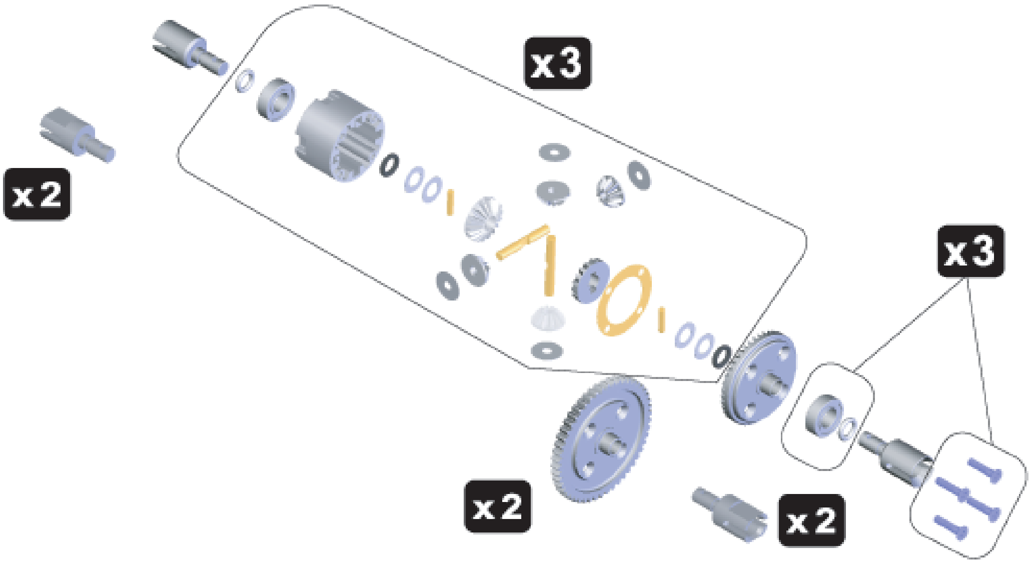


PD1843-R **CARBON SERVO SAVER TOP PLATE(R) OPT**

(DIAMOND SILVER)
PD1843-S **CARBON SERVO SAVER TOP PLATE(S) OPT**

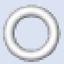
2 GEAR DIFFERENTIALS

B bag

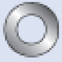

x3
x2
x3
x2
x2

2.1

Roll Pin, ø2.5x11mm

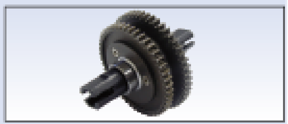


O-ring, ø5.8x9.6mm
O-ring, ø4.4x0.8mm

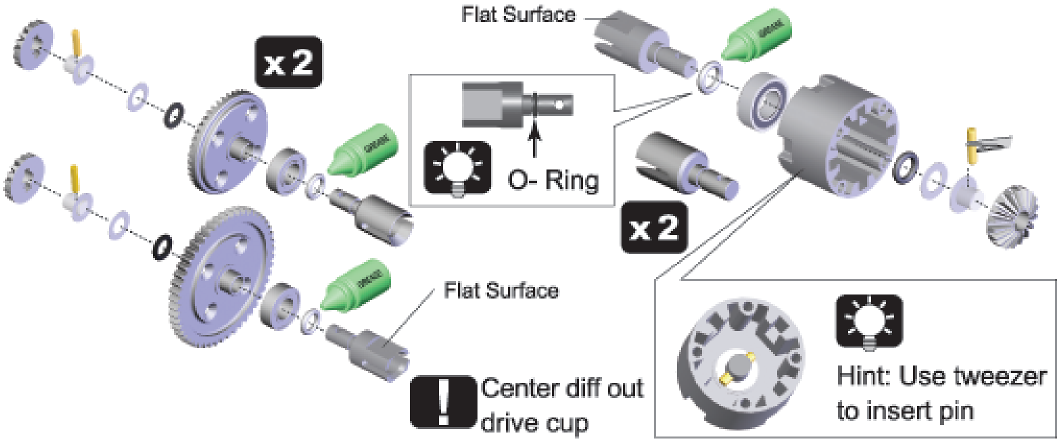


0.15mm Gear Shim

OP



PD2321 2-SPEED ASSEMBLY

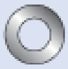

x2
GREASE
GREASE
GREASE
Flat Surface
O- Ring
x2
Flat Surface

Center diff out drive cup

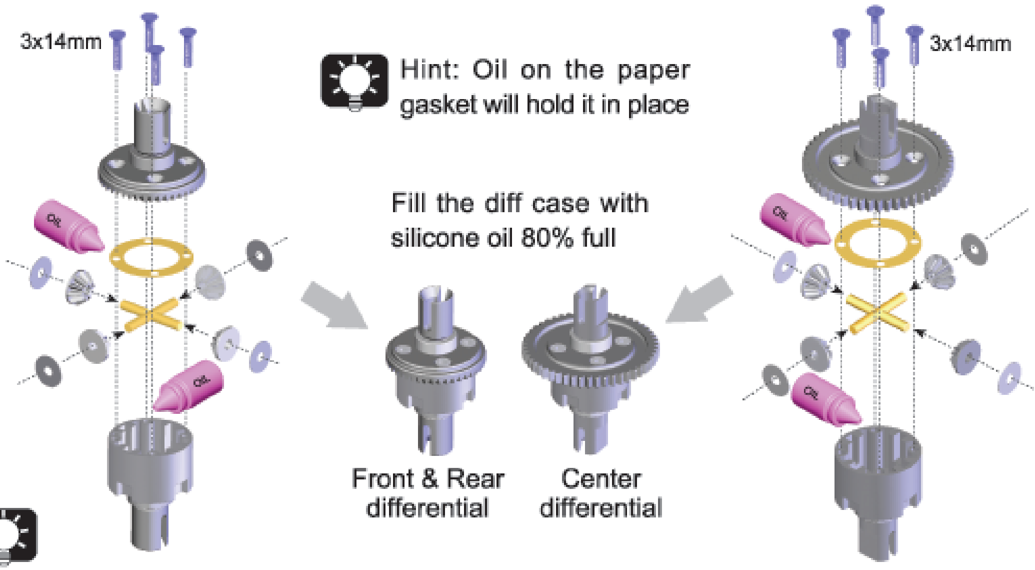
Hint: Use tweezer to insert pin

2.2

M3x14mm
Flat Head Hex Screw



0.2mm Satelite Gear Shim


3x14mm
OIL
OIL
OIL
OIL
3x14mm
Front & Rear differential
Center differential

Hint: Oil on the paper gasket will hold it in place

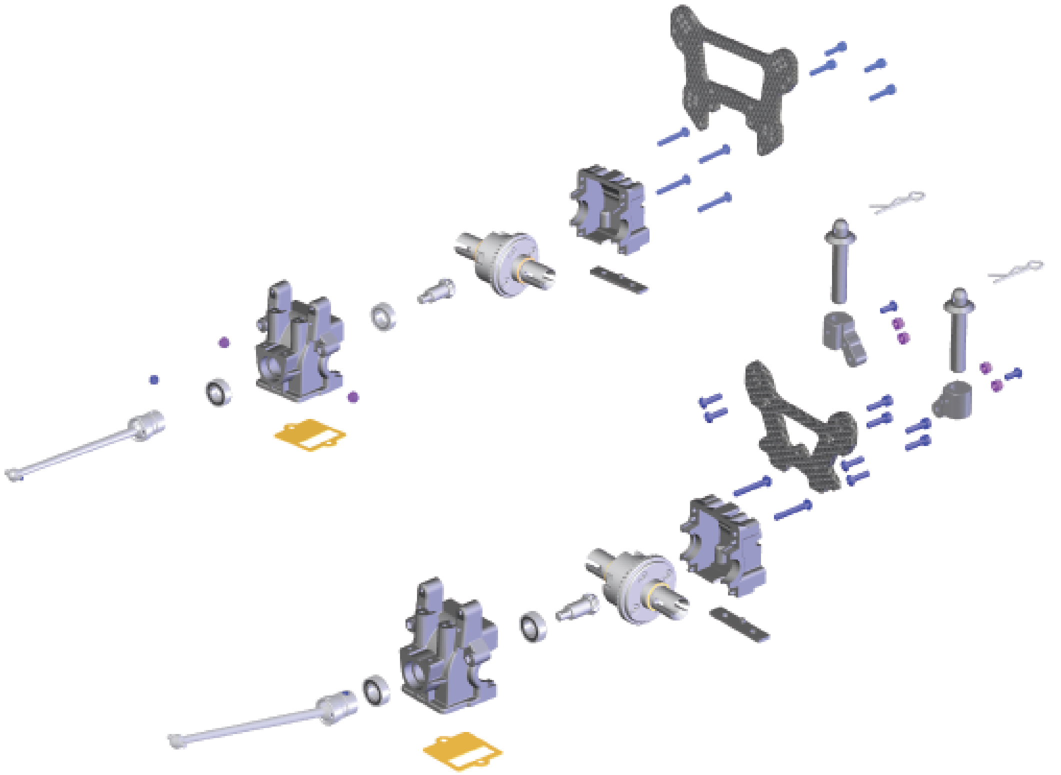
Fill the diff case with silicone oil 80% full

The initial setting of the Diffs oil meets most off-road tracks for stable handling. Thicker silicon oil will decrease the vehicle's turning capability and increase its forward traction. Thinner oil is just the opposite that gives you different handling. Ask an experienced modeler or your hobby shop for further advice at your local track.

Front diff silicon oil:	5,000
Center diff silicon oil:	10,000
Rear diff silicon oil:	1,000

3 FRONT & REAR BULKHEADS

C
bag



3.1

M3x22mm
Button Head Hex Screw

M3x12mm
Socket Head Hex Screw

3.2

M3x25mm
Button Head Hex Screw

M3x12mm
Button Head Hex Screw

M3x8mm
Button Head Hex Screw

M3x12mm
Socket Head Hex Screw

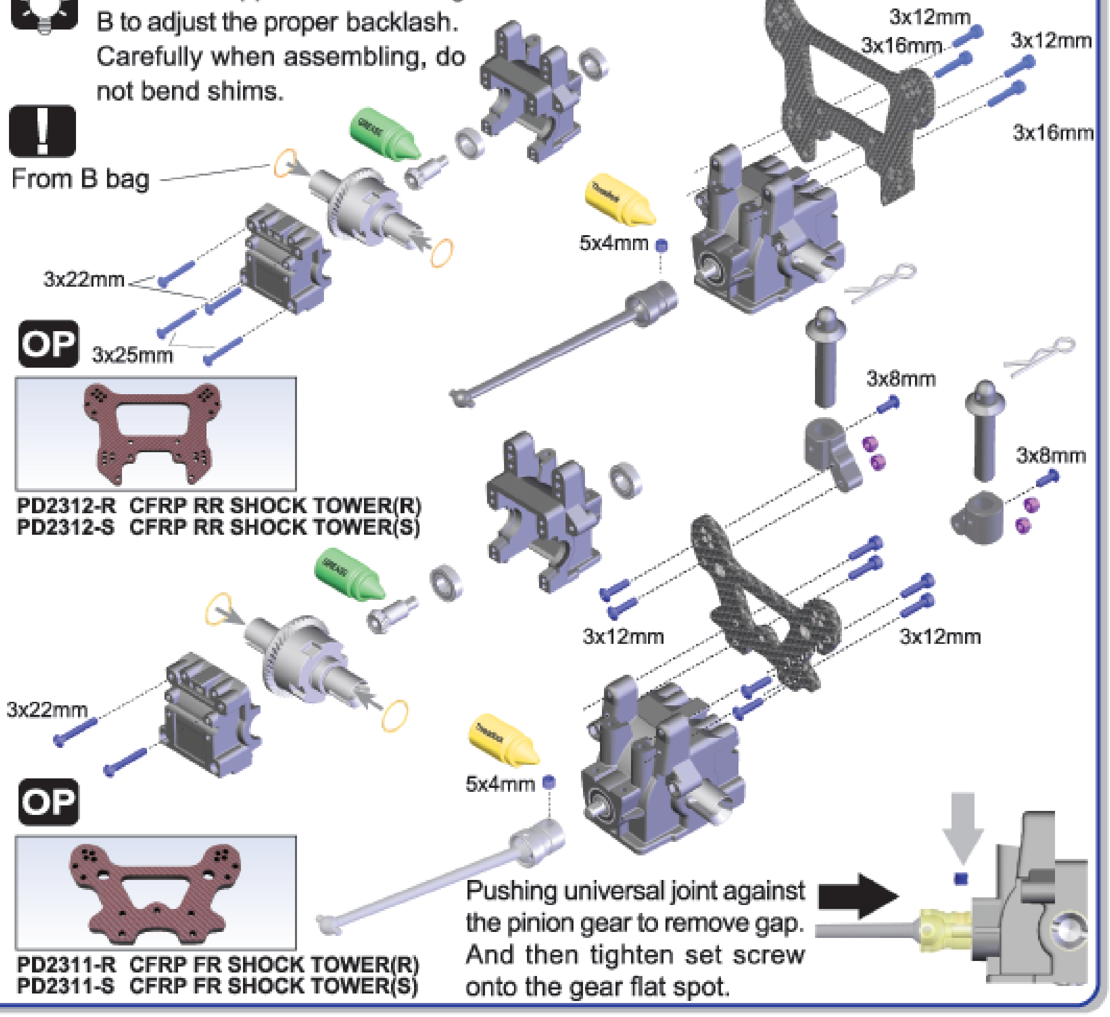
M3x16mm
Socket Head Hex Screw

Lock Nut, M3

M5x4mm
Set Screw

Hint: Use supplied shims in bag B to adjust the proper backlash. Carefully when assembling, do not bend shims.

From B bag


3x12mm
3x16mm
3x12mm
3x16mm
5x4mm
3x22mm
OP
3x25mm
3x8mm
3x8mm
3x12mm
3x12mm
3x22mm
OP
5x4mm

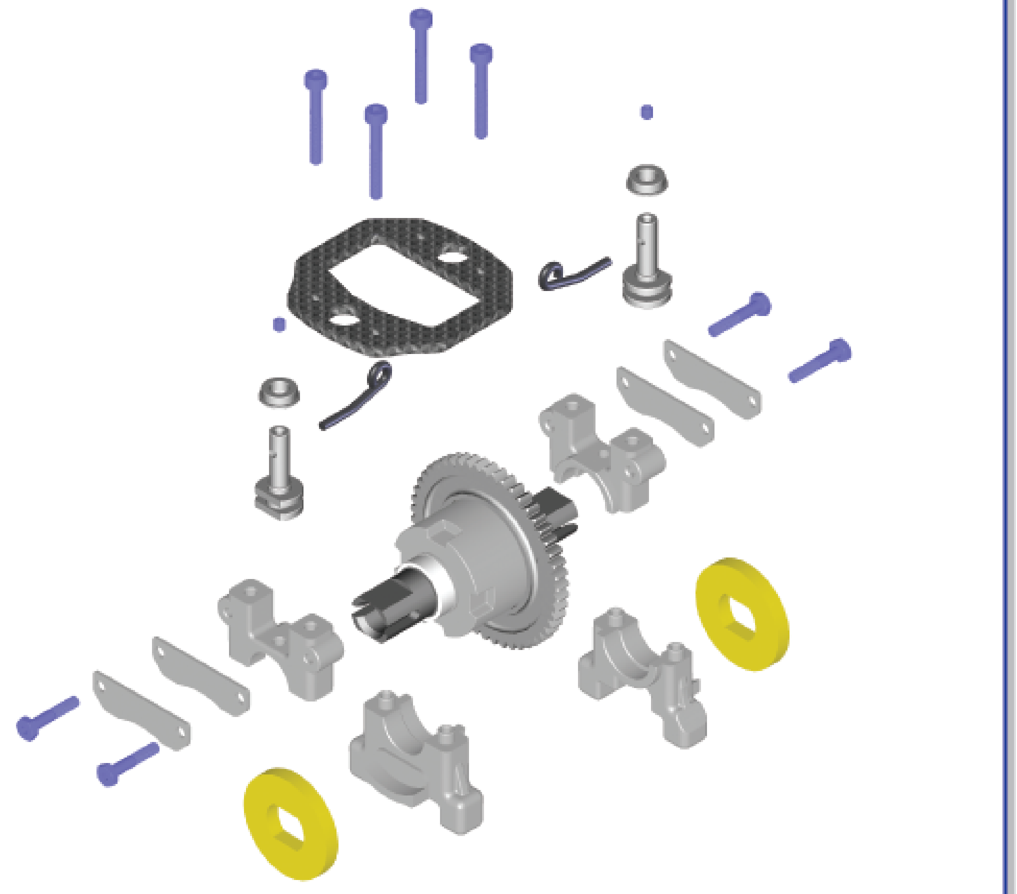
PD2312-R CFRP RR SHOCK TOWER(R)
PD2312-S CFRP RR SHOCK TOWER(S)

PD2311-R CFRP FR SHOCK TOWER(R)
PD2311-S CFRP FR SHOCK TOWER(S)

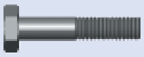
Pushing universal joint against the pinion gear to remove gap. And then tighten set screw onto the gear flat spot.

4 CENTER DIFF MOUNT & BRAKE

D bag



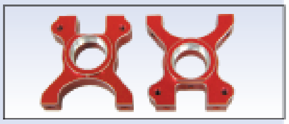
4.1



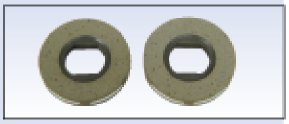
M3x16mm
Brake Pad Fixing Screw

4.2

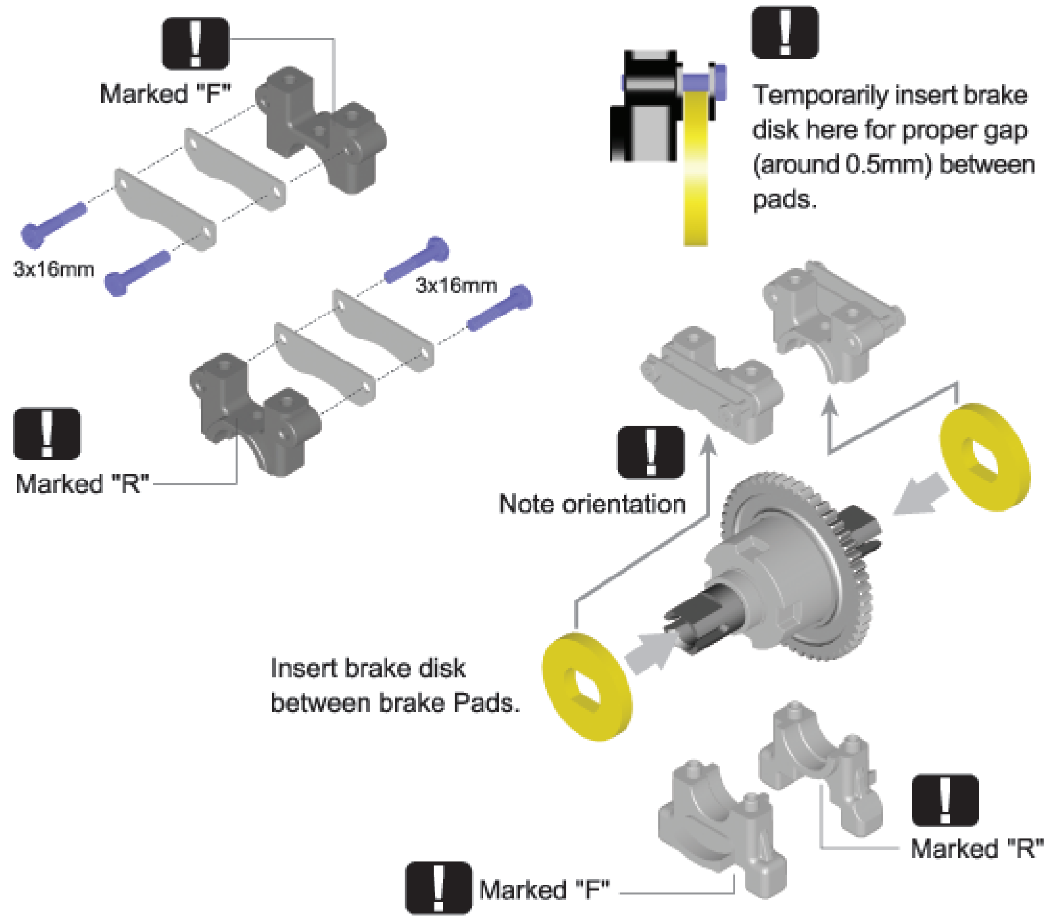
OP



PD1845 CTR DIFF MOUNT, S3 OPT



PD1861 HEATSINK DISC BRAKE, S3 OPT


! Marked "F"
3x16mm
3x16mm
! Marked "R"
! Note orientation
! Marked "R"
! Marked "F"

! Temporarily insert brake disk here for proper gap (around 0.5mm) between pads.

Insert brake disk between brake Pads.

4

4.3

M3x30mm
Socket Head Hex Screw

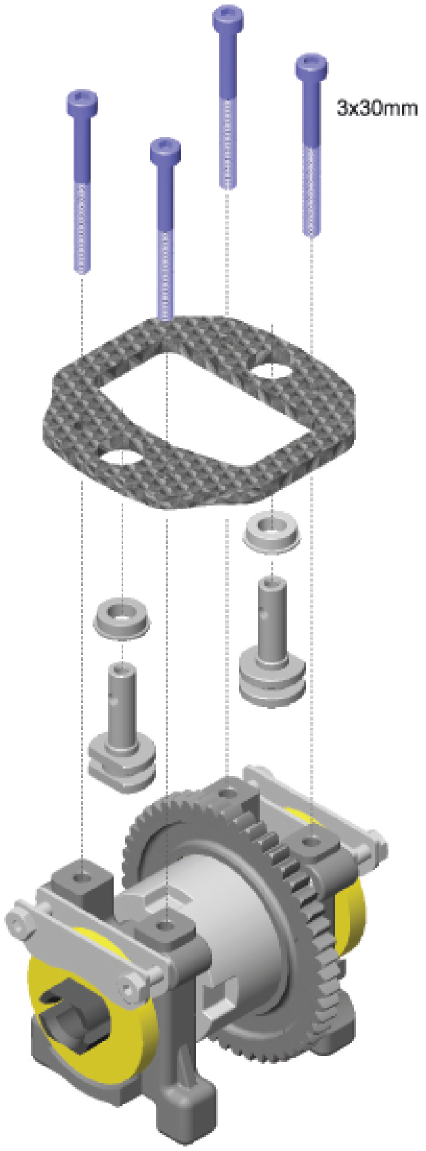
OP

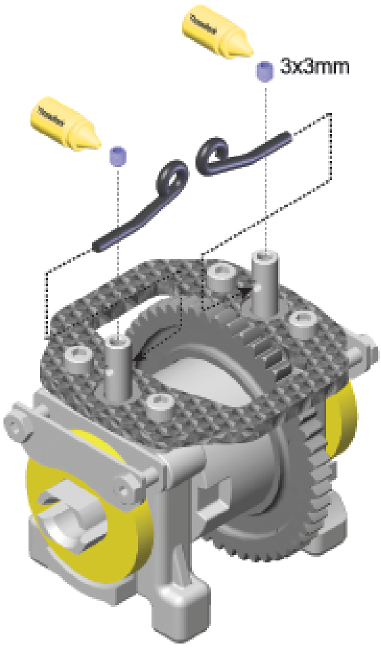
PD2314-R CFRP CTR DIF PLT(R)
PD2314-S CFRP CTR DIF PLT(S)

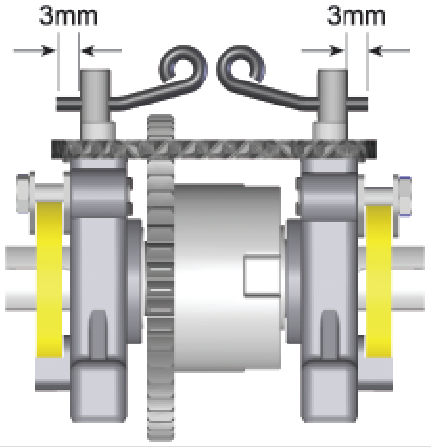
4.4

M3x3mm
Set Screw

4.5





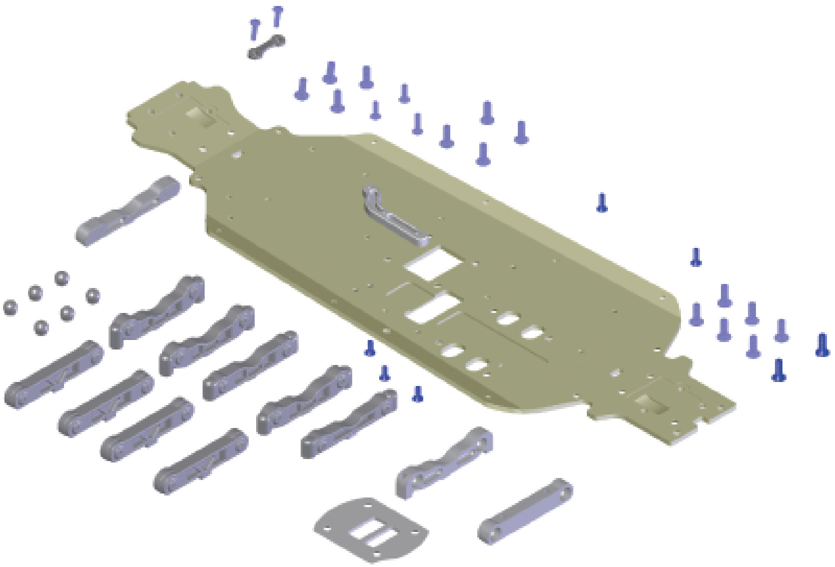


5

CENTER DRIVE TRAIN

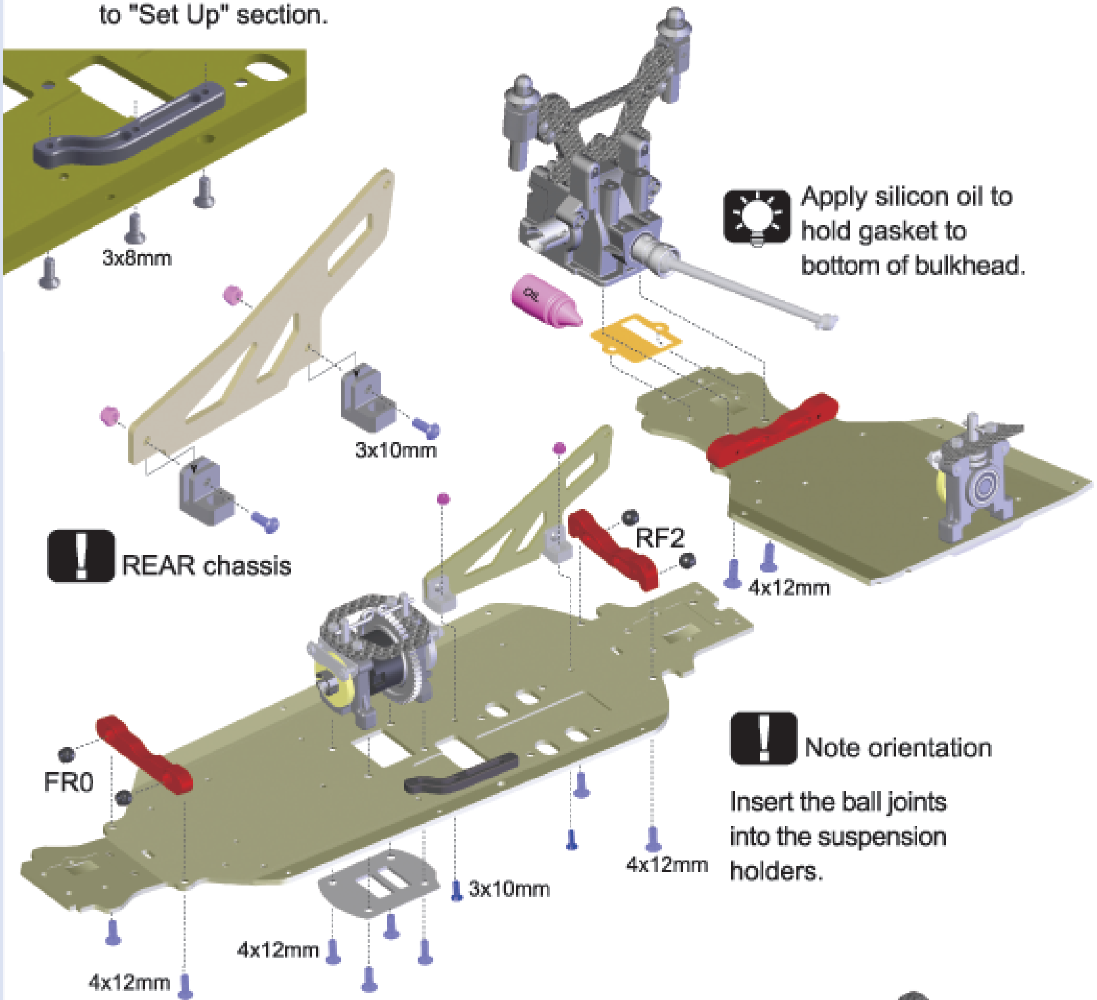
E bag

F bag



5

Choose the FR0 toe block and RF2 toe block for the initial setting. You can adjust front caster, rear inboard toe and rear anti-squat by changing the different suspension arm holders to meet your race requirement. For more adjusting details, please refer to "Set Up" section.

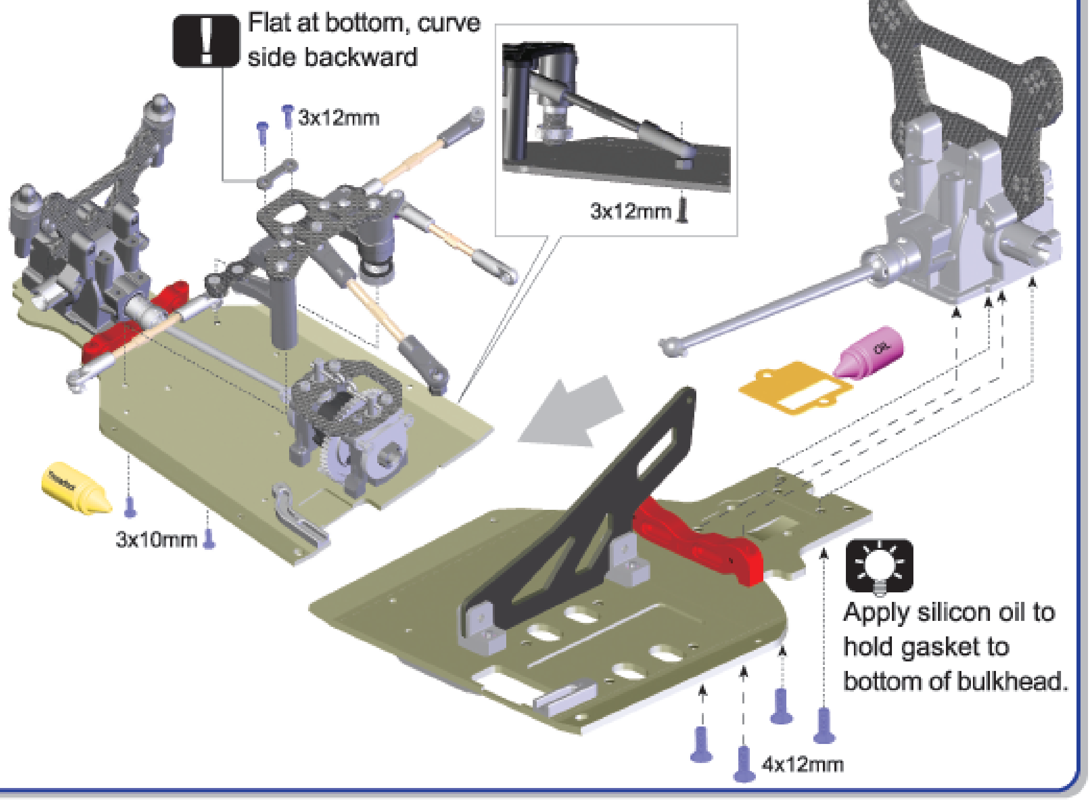


Apply silicon oil to hold gasket to bottom of bulkhead.

REAR chassis

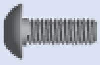
Note orientation

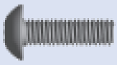
Insert the ball joints into the suspension holders.

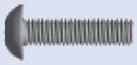


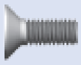
Flat at bottom, curve side backward

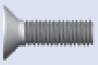
Apply silicon oil to hold gasket to bottom of bulkhead.

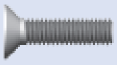

M3x8mm
Button Head Hex Screw

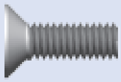

M3x10mm
Button Head Hex Screw


M3x12mm
Button Head Hex Screw


M3x8mm
Flat Head Hex Screw

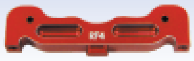

M3x10mm
Flat Head Hex Screw


M3x12mm
Flat Head Hex Screw


M4x12mm
Flat Head Hex Screw

OP

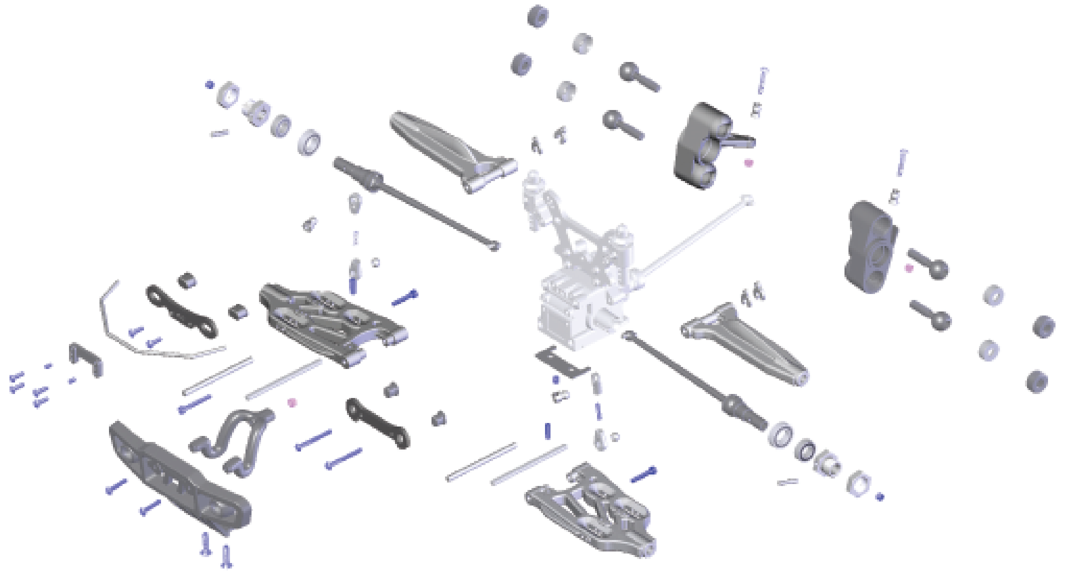
PD1851 A7075 FR PLATE RR TRANS, RF0, S3 OPT



PD1990 A7075 FR PLATE RR TRANS, RF+3, S3 OPT
PD1852 A7075 FR PLATE RR TRANS, RF+4, S3 OPT

6 FRONT SUSPENSION

G bag



6.1

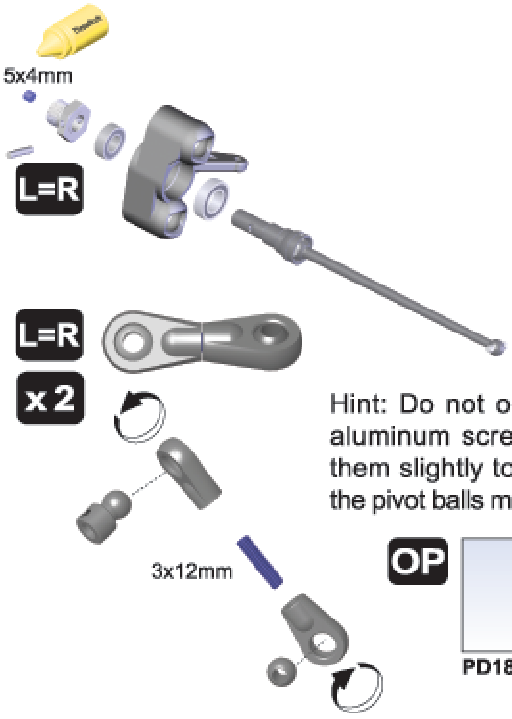
Roll Pin, ø3x17mm

M5x4mm
Set Screw

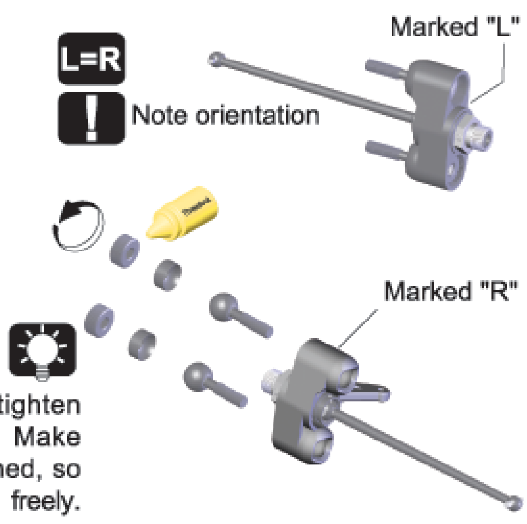
ø10x19mm Bearing

ø8x16mm Bearing

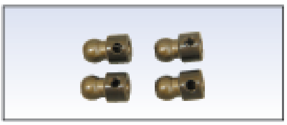
M3x12mm
Set Screw

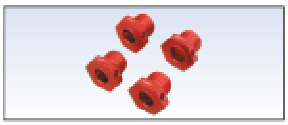

5x4mm
L=R
L=R
x 2
3x12mm

Hint: Do not overtighten aluminum screws. Make them slightly touched, so the pivot balls move freely.


L=R
Note orientation
Marked "L"
Marked "R"

OP

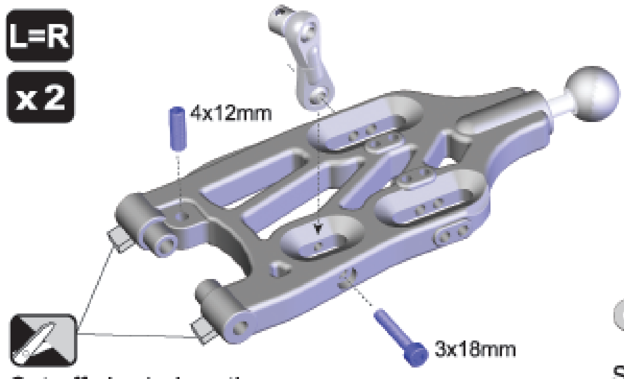

PD1860 HARDENED SWAY BAR BALL, S3


PD1864 LITE HEX WHL ADAPTER, S3 OPT

6.2

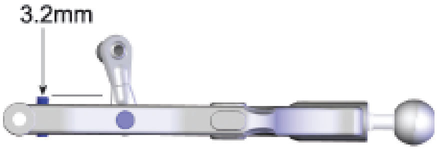
M4x12mm
Set Screw

M3x18mm
Socket Head Hex Screw


L=R
x 2
4x12mm
3x18mm

Cut off shaded portion

Refer to P.30 for droop adjustment.



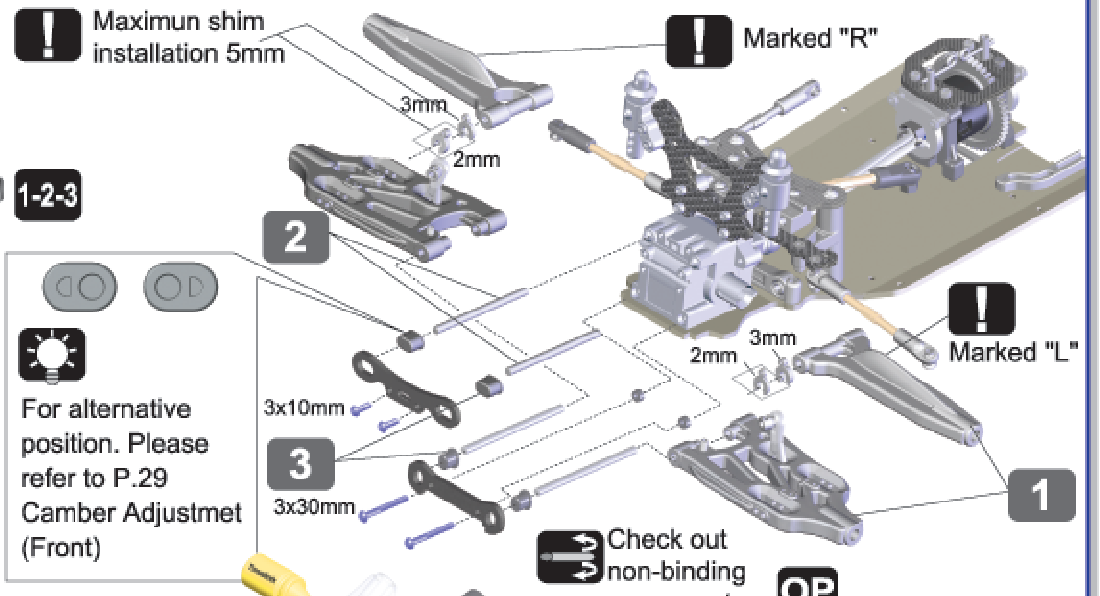
Secure droop screw 3.2mm on the top

6

6.3

M3x30mm
Button Head Hex Screw

M3x10mm
Button Head Hex Screw


Maximun shim
installation 5mm
3mm
2mm
Marked "R"
2
3x10mm
3
3x30mm
3mm
2mm
Marked "L"
1

For alternative position. Please refer to P.29 Camber Adjustmet (Front)

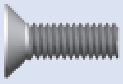
6.4

M3x3mm
Set Screw

M3x5mm
Set Screw

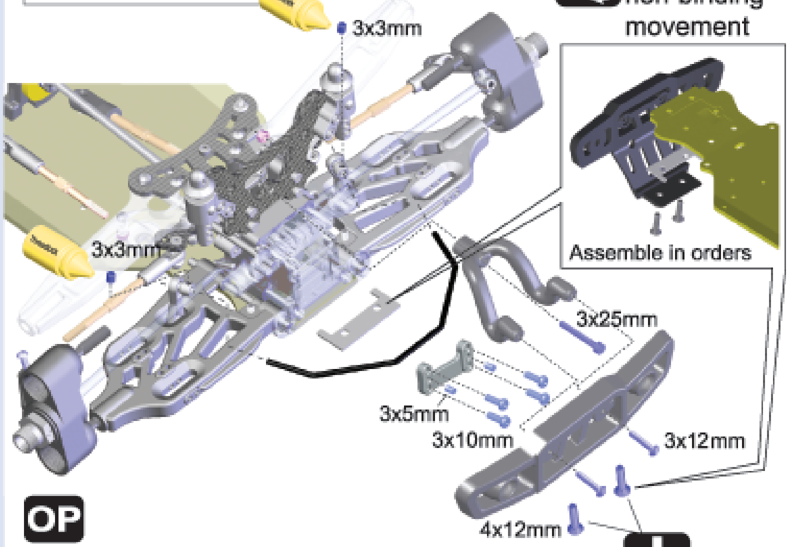
M3x10mm
Button Head Hex Screw

M3x12mm
Button Head Hex Screw



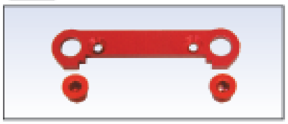
M4x12mm
Flat Head Hex Screw

M3x25mm
Socket Head Hex Screw

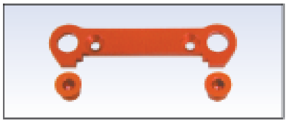

3x3mm
3x3mm
Check out
non-binding
movement
Assemble in orders
3x25mm
3x5mm
3x10mm
3x12mm
4x12mm

From F bag

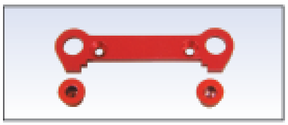
OP



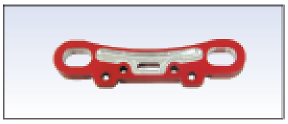
PD1847 ALUM FR PLATE FR TRANS, FF-1, S3 OPT



PD1848 ALUM FR PLATE FR TRANS, FF0, S3 OPT

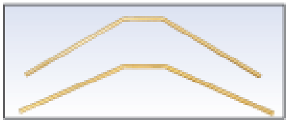


PD1849 ALUM FR PLATE FR TRANS, FF+1, S3 OPT

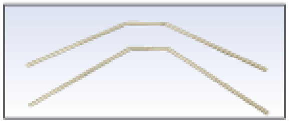


PD1855 A7075 UPPER ARM PLATE, S3 OPT

OP



PD1866 SWAY BAR,GOLD 3mm, S3



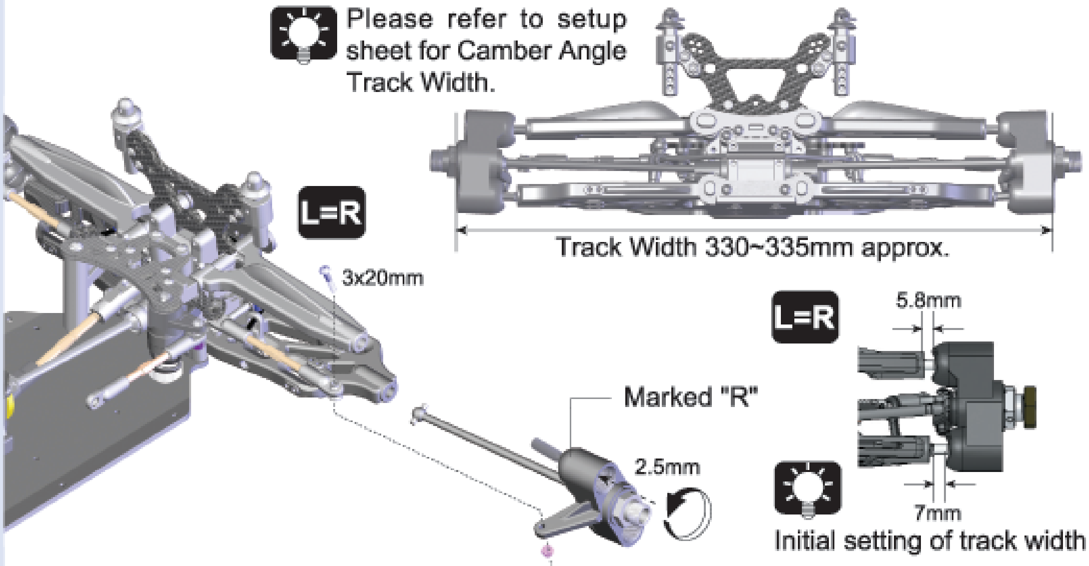
PD1867 SWAY BAR, SILVER 2.5mm, S3

6.5

M3x20mm
Button Head Hex Screw

Lock Nut, M3

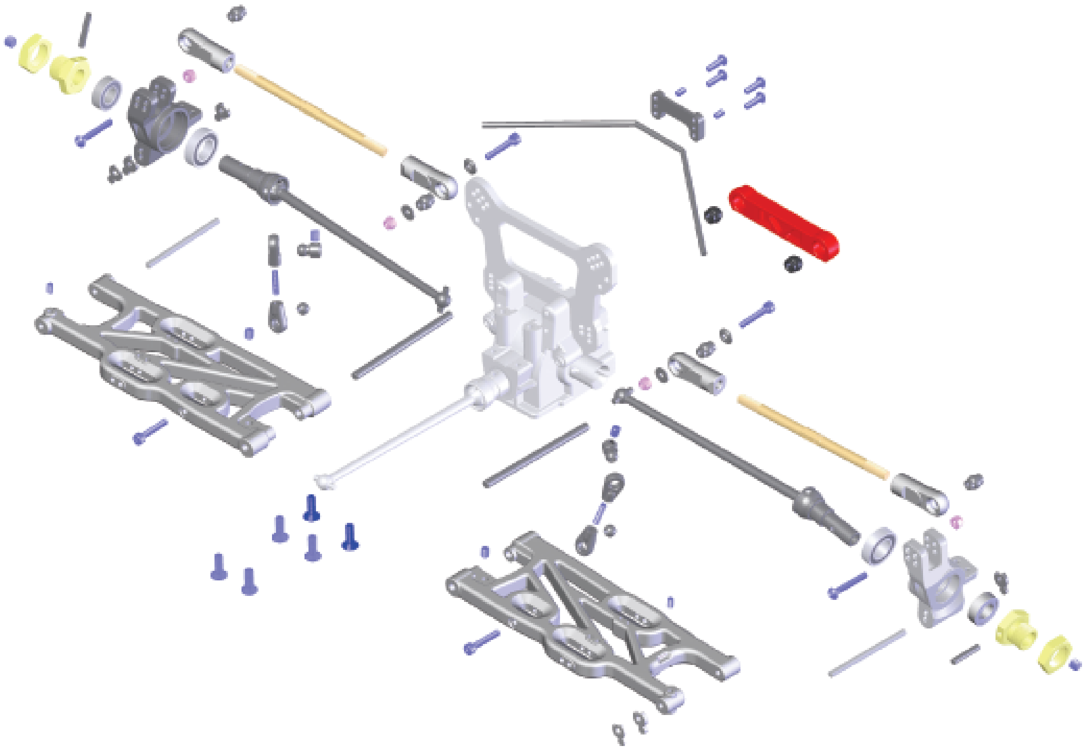
Please refer to setup sheet for Camber Angle Track Width.


Track Width 330~335mm approx.
L=R
3x20mm
Marked "R"
2.5mm
L=R
5.8mm
7mm

Initial setting of track width

7 REAR SUSPENSION

H bag



7.1

M3x12mm Set Screw

Roll Pin, ø3x17mm

M5x4mm Set Screw

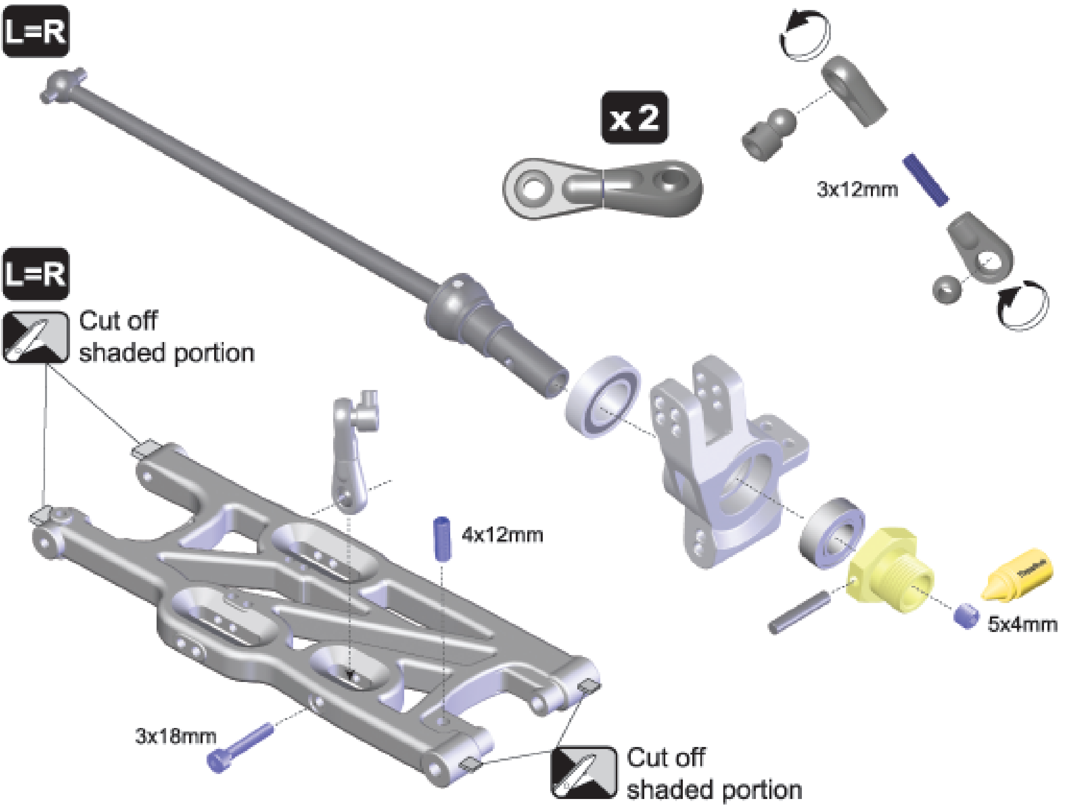
ø10x19mm Bearing

ø8x16mm Bearing

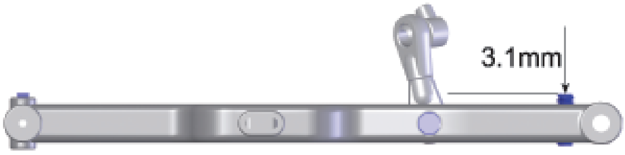
7.2

M4x12mm Set Screw

M3x18mm Socket Head Hex Screw


L=R
x 2
3x12mm
L=R
Cut off shaded portion
4x12mm
5x4mm
3x18mm
Cut off shaded portion

Refer to P.30 for droop adjustment.



Secure droop screw 3.1mm on the top

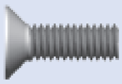
7

7.3

M3x5mm
Set Screw

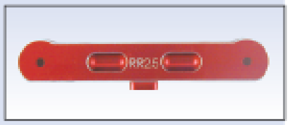
7.4

7.5



M4x12mm
Flat Head Hex Screw

OP



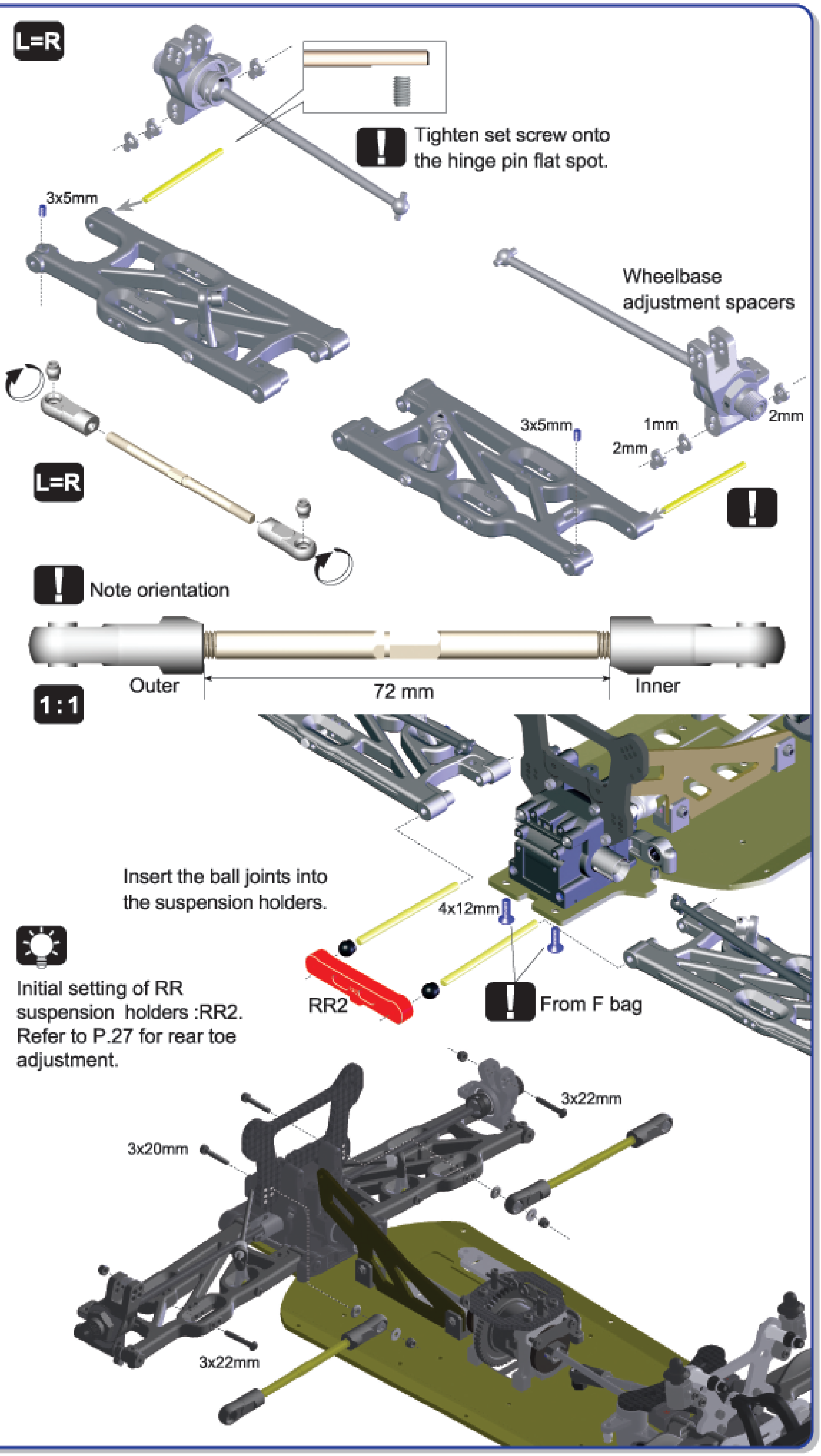
PD1853	**A7075 RR PLATE RR TRANS, RR+2, S3 OPT**
PD1991	**A7075 RR PLATE RR TRANS, RR+2.5, S3 OPT**
PD1854	**A7075 RR PLATE RR TRANS, RR+3, S3 OPT**
PD1992	**A7075 RR PLATE RR TRANS, RR+4, S3 OPT**

7.6

M3x20mm
Socket Head Hex Screw

Lock Nut, M3

M3x22mm
Button Head Hex Screw


L=R
3x5mm
L=R
3x5mm
1mm
2mm
2mm
Outer
72 mm
Inner
1:1
4x12mm
RR2
3x22mm
3x20mm
3x22mm

Tighten set screw onto the hinge pin flat spot.

Wheelbase adjustment spacers

Note orientation

Insert the ball joints into the suspension holders.

Initial setting of RR suspension holders :RR2. Refer to P.27 for rear toe adjustment.

From F bag

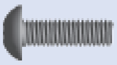
7

7.7

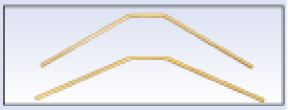
7.8

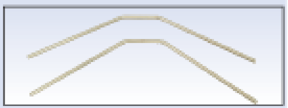
M3x3mm Set Screw

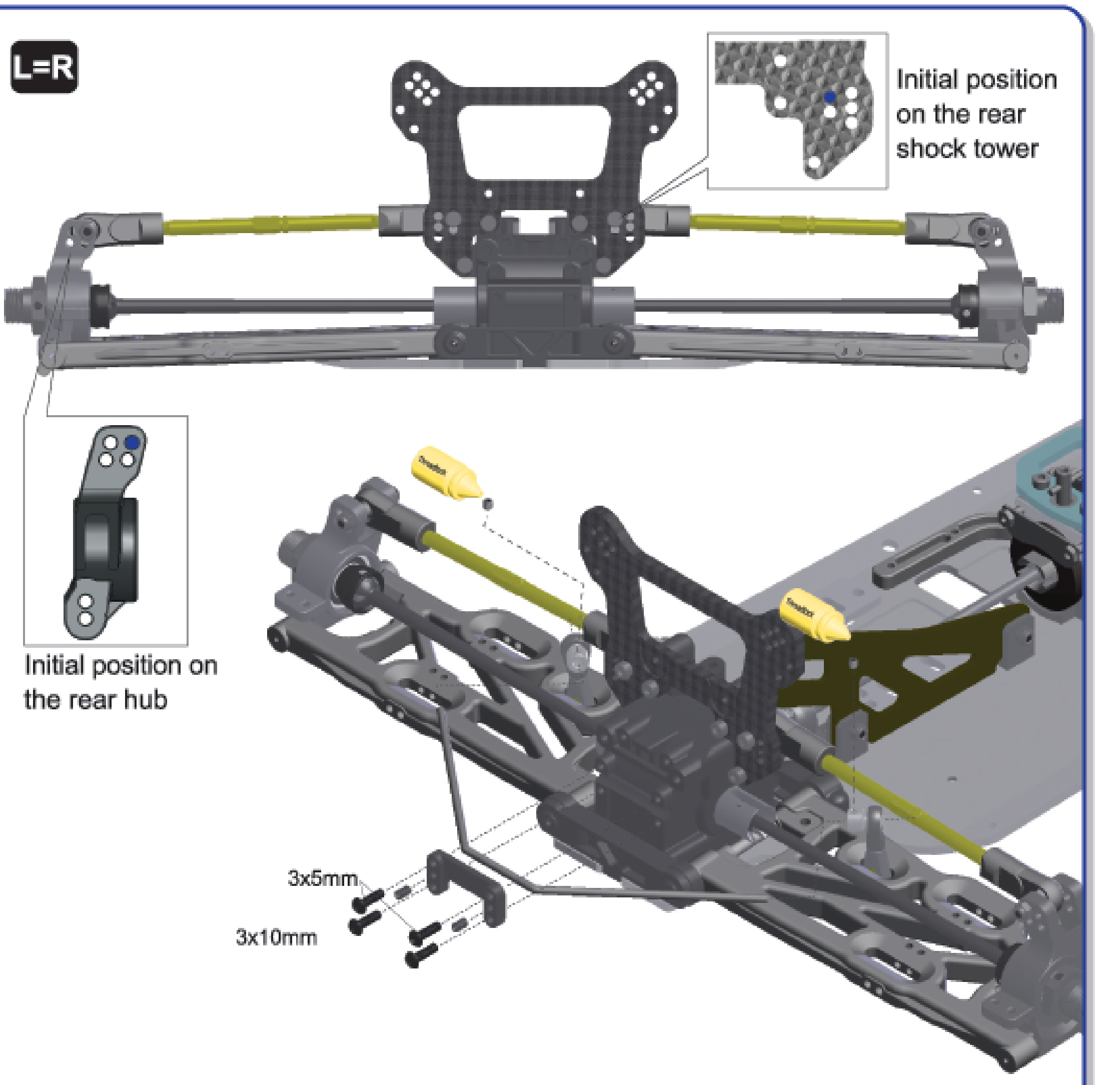
M3x5mm Set Screw


M3x10mm
Button Head Hex Screw

OP


PD1866 SWAY BAR,GOLD 3mm, S3


PD1867 SWAY BAR, SILVER 2.5mm, S3

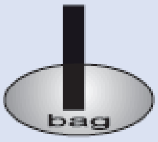

L=R
3x5mm
3x10mm

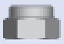
Initial position on the rear shock tower

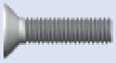
Initial position on the rear hub

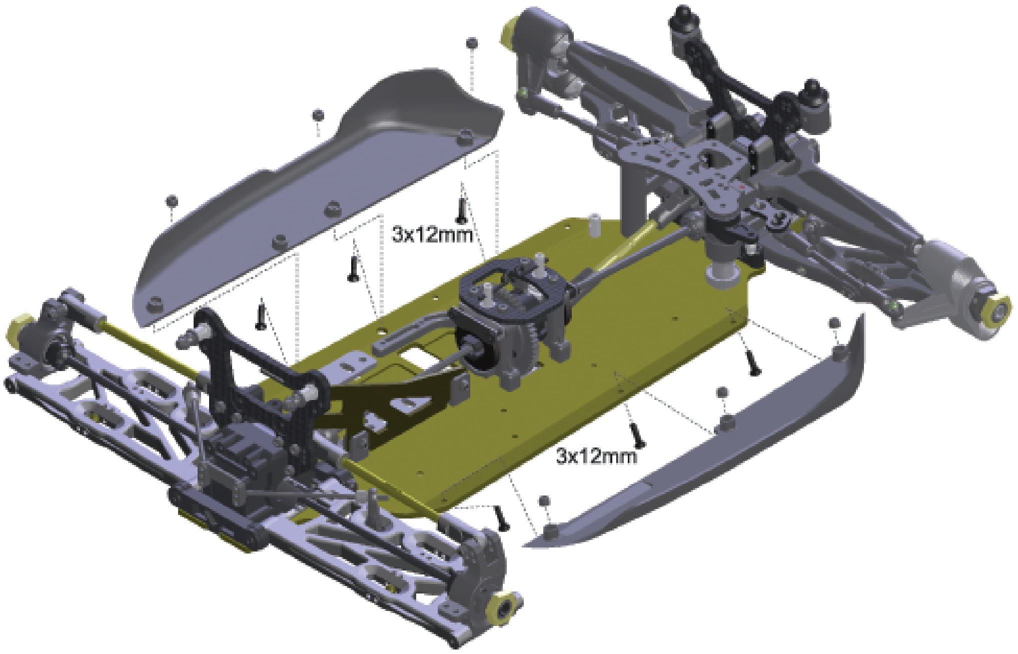
8

SIDE GUARD




Lock Nut, M3

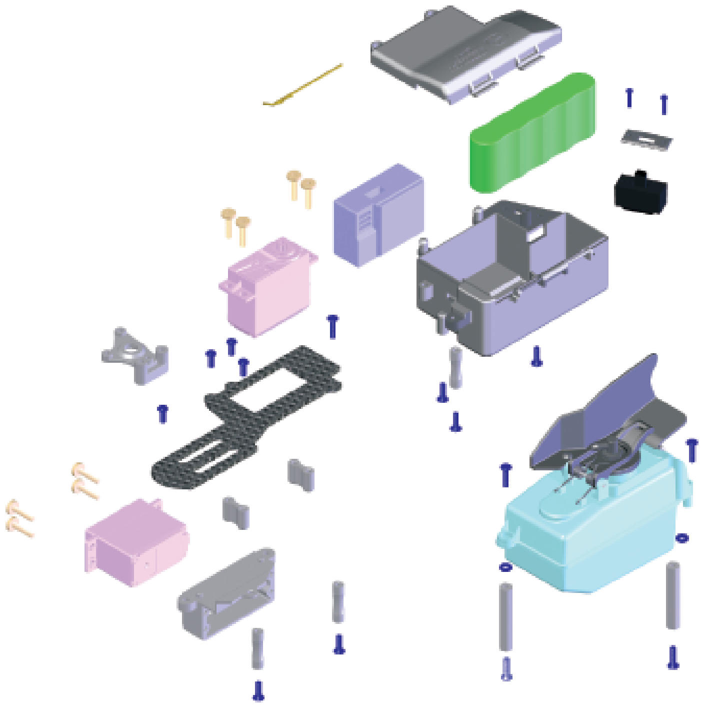

M3x12mm
Flat Head Hex Screw


3x12mm
3x12mm

9

RADIO BOX & FUEL TANK

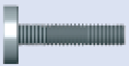
J bag



9.1

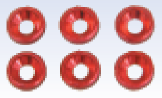
M3x8mm
Button Head Hex Screw

M3x10mm
Button Head Hex Screw

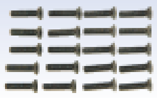


M3x14mm
Flat Head Socket Screw

OP

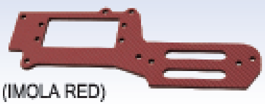


AD2523-R ANODIZED WASHER, OPT



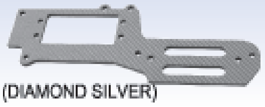
For AD2523-R

PD0680 CT MACHINE SCREW M3x14mm



(IMOLA RED)

PD2313-R CFRP RR SERVO TRAY(R)

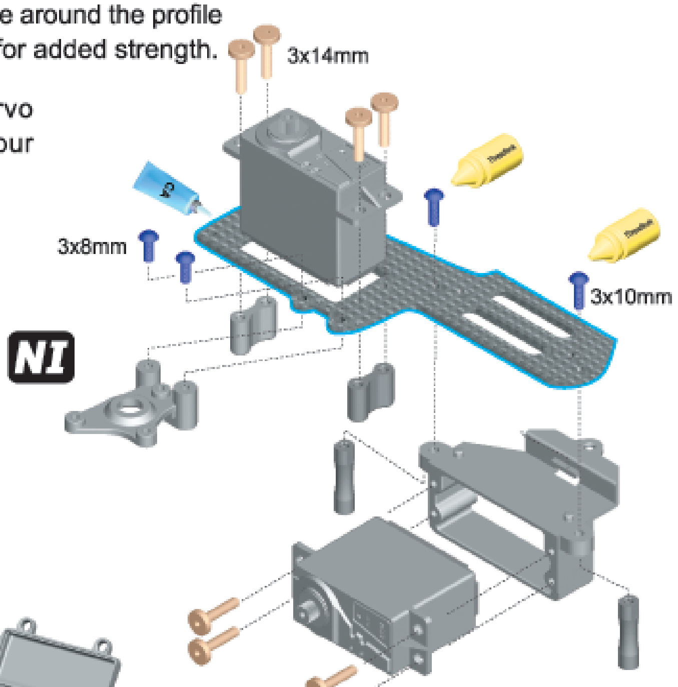


(DIAMOND SILVER)

PD2313-R CFRP RR SERVO TRAY(S)

Apply few drops of CA glue around the profile edge of the carbon plate for added strength.

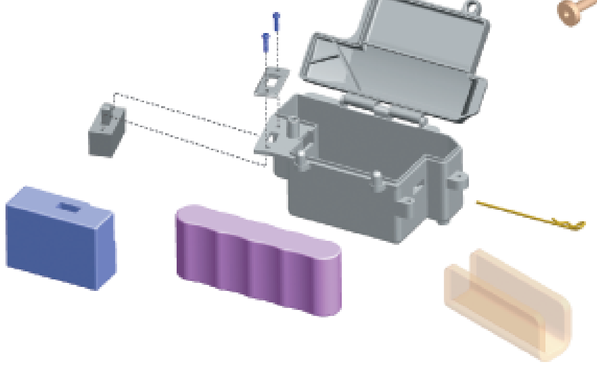
Hint: You can use servo grommets to protect your servo (Not Included)



NI

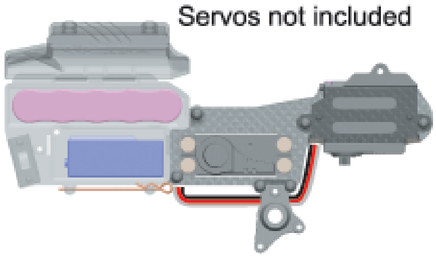
Battery pack & Receiver not included

NI Foam not included



NI

Servos not included

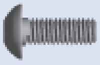


Route servo lead as shown
Route the receiver wire through the mounting hole and the antenna tube.

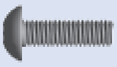
Hint: Use foam to cushion the battery pack and receiver for vibration protection.

9

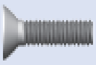
9.3



M3x8mm
Button Head Hex Screw

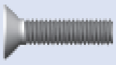


M3x10mm
Button Head Hex Screw

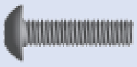


M3x10mm
Flat Head Hex Screw

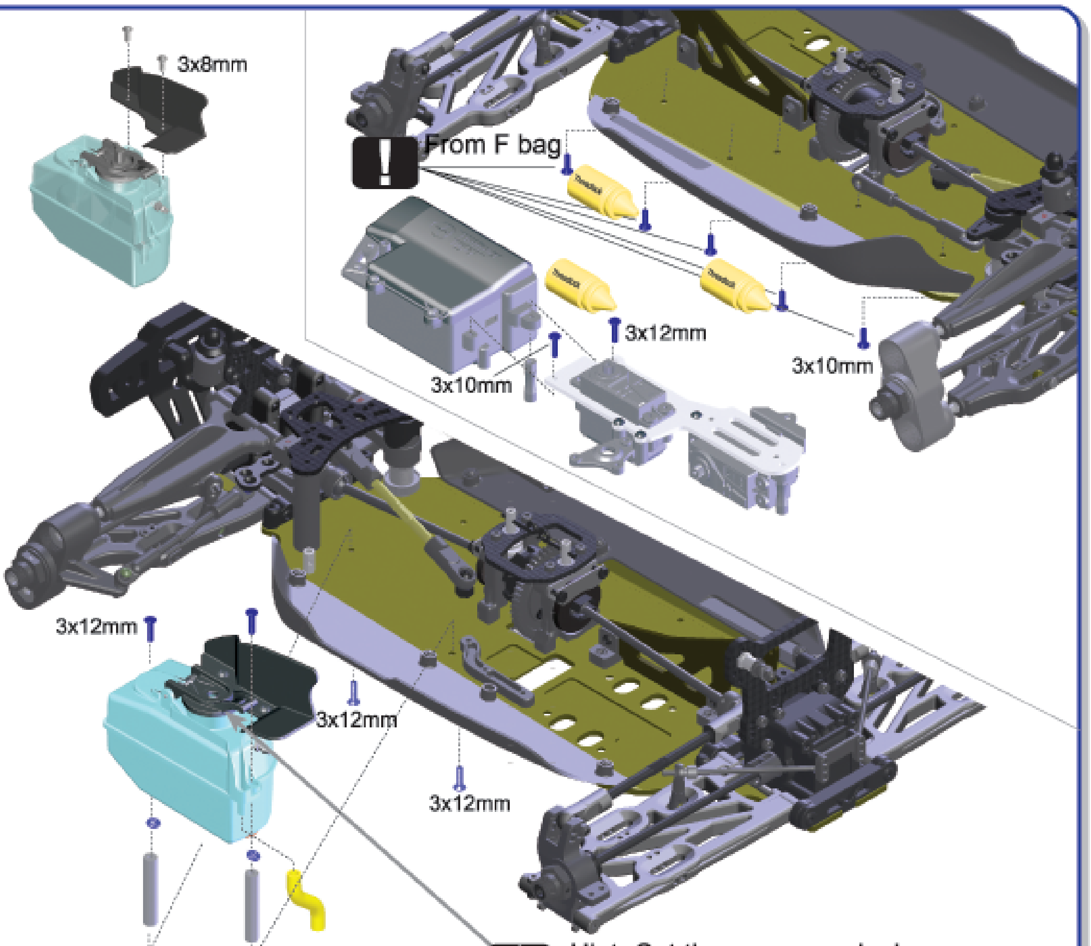
9.4



M3x12mm
Flat Head Hex Screw



M3x12mm
Button Head Hex Screw


3x8mm
From F bag
3x12mm
3x10mm
3x10mm
3x12mm
3x12mm
3x12mm
3x12mm

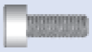
Hint: Cut the silicon tube to 38mm length.

Hint: Cut the pressure nipple beneath the tank cap for fuel gun using.

10

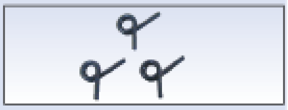
ENGINE MOUNT & CLUTCH SET

K bag

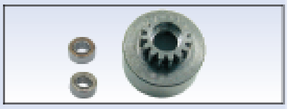


M3x8mm
Socket Head Hex Screw

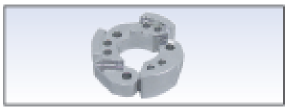
OP



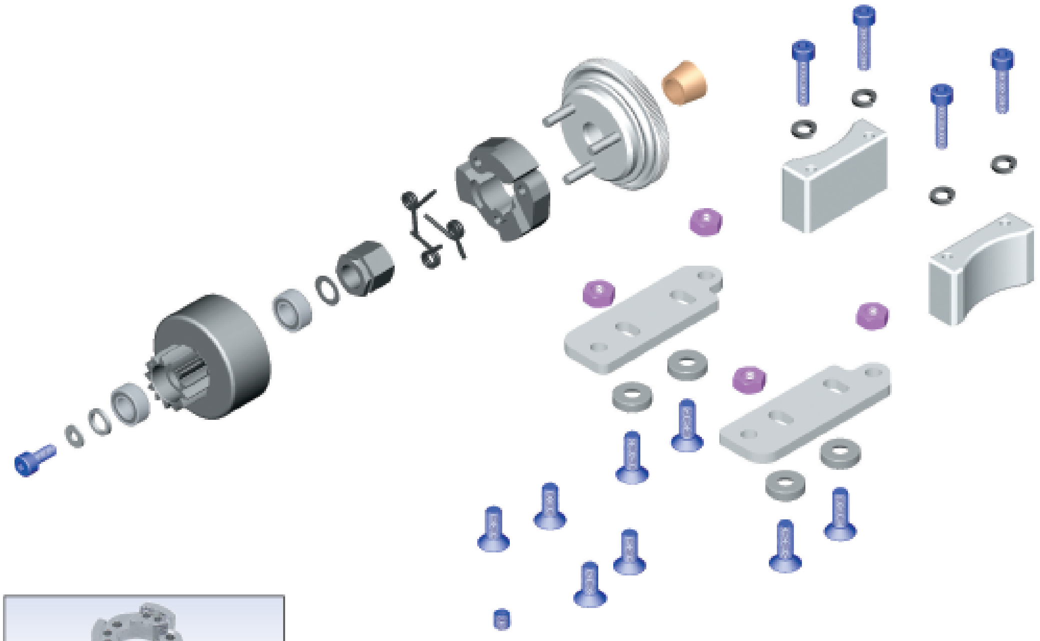
PD1980-1 CLUTCH SPRING, 0.9mm
PD1980-2 CLUTCH SPRING, 1.1mm



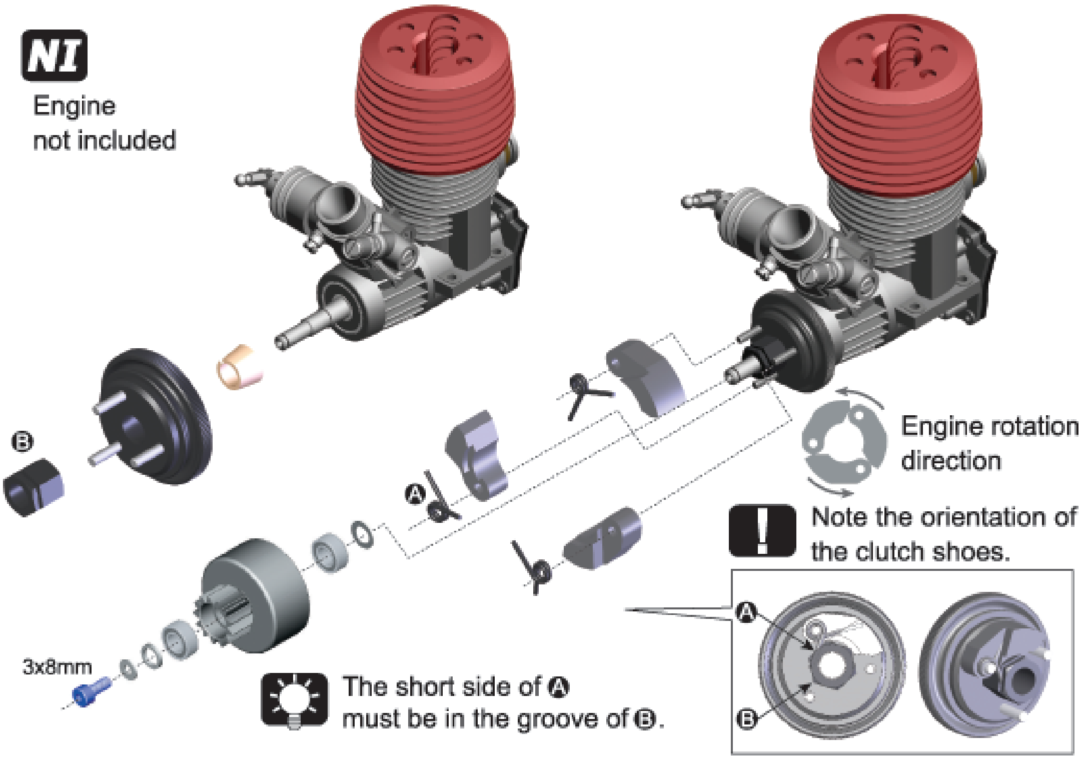
PD0470 CLUTCH BELL 26mm,15T, 1/8
PD0619 CLUTCH BELL 26mm,14T, 1/8



PD1993 ALUMINUM CLUTCH SHOES



10



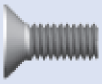
NI Engine not included

Engine rotation direction

Note the orientation of the clutch shoes.

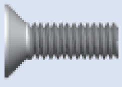
The short side of A must be in the groove of B.

10.1


M4x10mm
Flat Head Hex Screw

Lock Nut, M3

10.2


M4x12mm
Flat Head Hex Screw

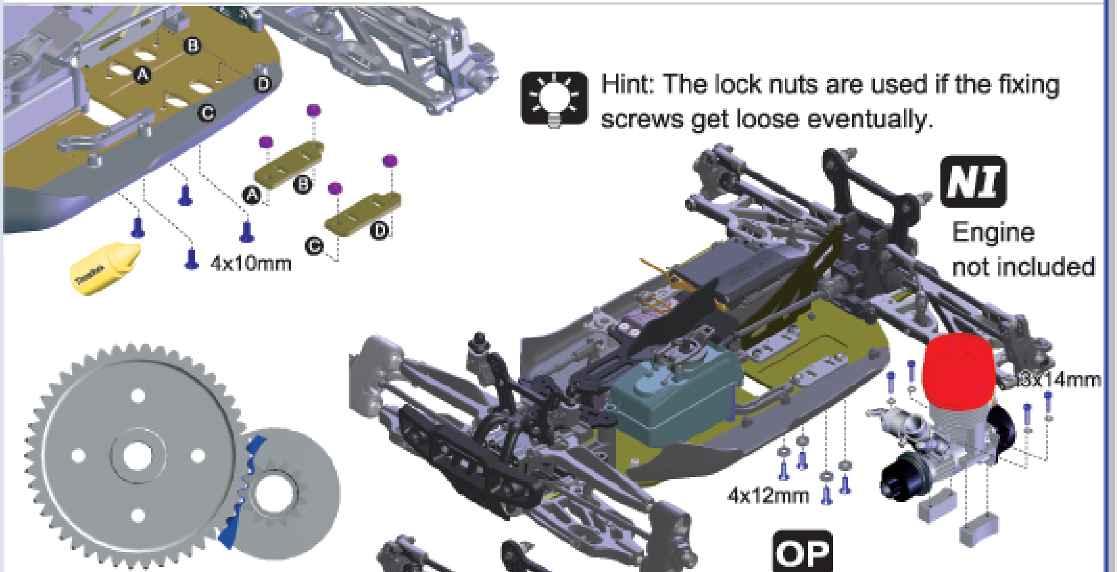
M3x14mm
Socket Head Hex Screw

ø3mm
Lock Washer

10.3

M4x4mm Set Screw

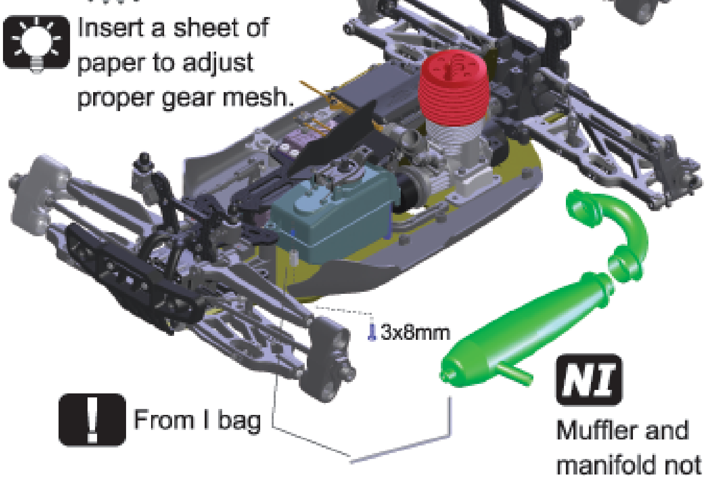
M3x8mm
Flat Head Hex Screw



Hint: The lock nuts are used if the fixing screws get loose eventually.

NI Engine not included

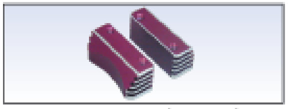
Insert a sheet of paper to adjust proper gear mesh.

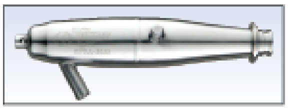


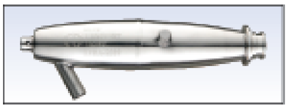
From I bag

NI Muffler and manifold not included

OP

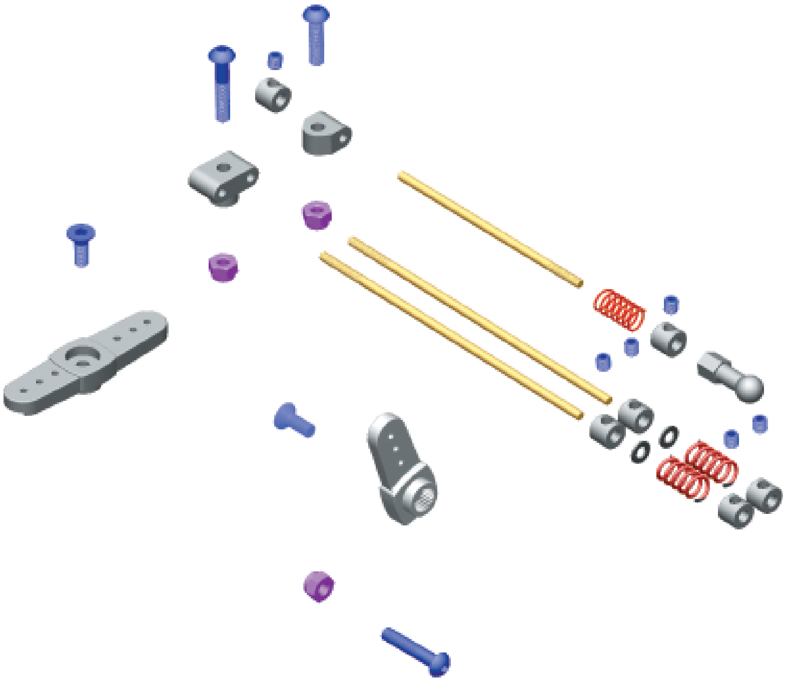

PD1859 LITE ENGINE MOUNT


9796 3-CHAMBER TUNED PIPE, EFRA 2035
9796-1 3-CHAMBER TUNED PIPE, W/ MANIFOLD EFRA 2035


9797 3-CHAMBER TUNED PIPE, EFRA 2039
9797-1 3-CHAMBER TUNED PIPE, W/ MANIFOLD EFRA 2039

11 THROTTLE AND BRAKE LINKAGE

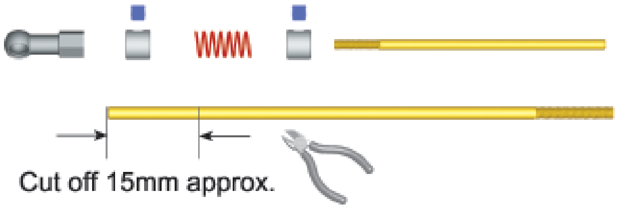
L bag



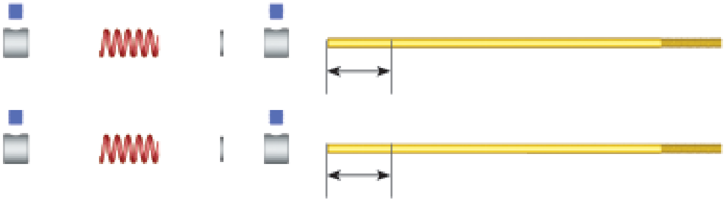
11.1

M3x3mm
Set Screw

Flat Washer, ø2.6


Cut off 15mm approx.

Cut the attached throttle rod in the bag (Approxi.15mm) to avoid interfering.



Cut excess off in order not to hit the tank.

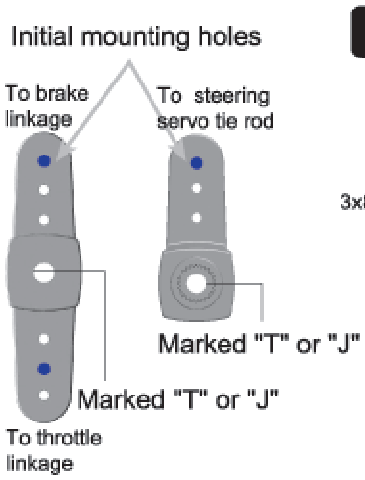
11.2

M3x8mm
Button Head Hex Screw

M3x12mm
Button Head Hex Screw

M3x16mm
Button Head Hex Screw

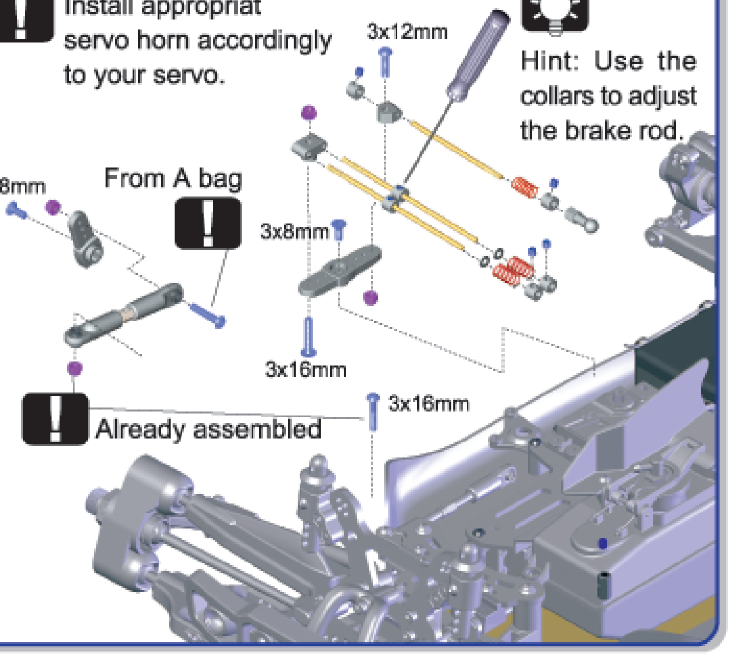
Lock Nut, M3


Initial mounting holes
To brake linkage
To steering servo tie rod
Marked "T" or "J"
Marked "T" or "J"
To throttle linkage

"T"-ACE R/C, Futaba
"J" -JR, Sanwa, Airtronic,
KO Propo, Multiplex

Install appropriat servo horn accordingly to your servo.

Hint: Use the collars to adjust the brake rod.

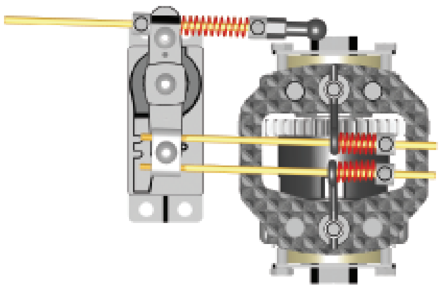

3x12mm
3x8mm
From A bag
3x8mm
3x16mm
3x16mm

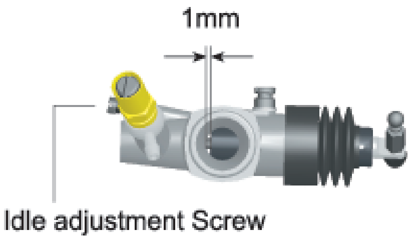
Already assembled

11

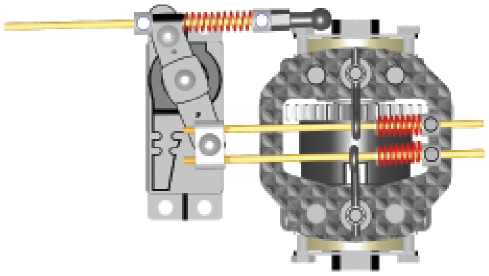
11.3
Throttle linkage adjustment

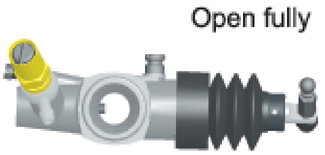
1.Neutral



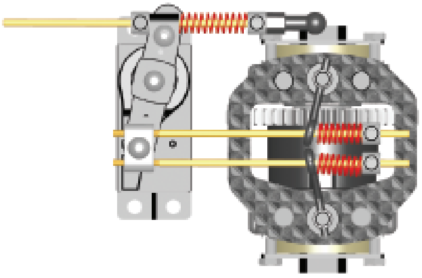


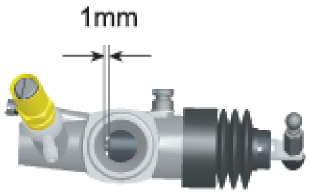
2.High throttle





3.Brake





Neutral

- Turn on the transmitter and receiver and set engine control servo trim to the neutral position.
- Adjust the idle adjustment screw on the carburetor to open approx. 1mm.
- Adjust both throttle linkage and brake linkage accordingly.

⁕ Do not adjust engine while it is running.

High throttle

- Adjust the servo-horn mounting position for the carburetor to open fully.
- Change the pivot mounting position on the servo horn in case the carburetor is not open fully or if it is opening excessively.
- Or if ATV/ EPA functions are available on the transmitter, adjust the throttle high end point.

Brake

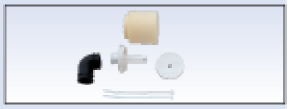
- Adjust the collars so the brakes work smoothly.
- If the brake applies too much or not enough, adjust the adjustment collars accordingly.
- Or if available on the transmitter, adjust the brake endpoint.

12 AIR FILTER

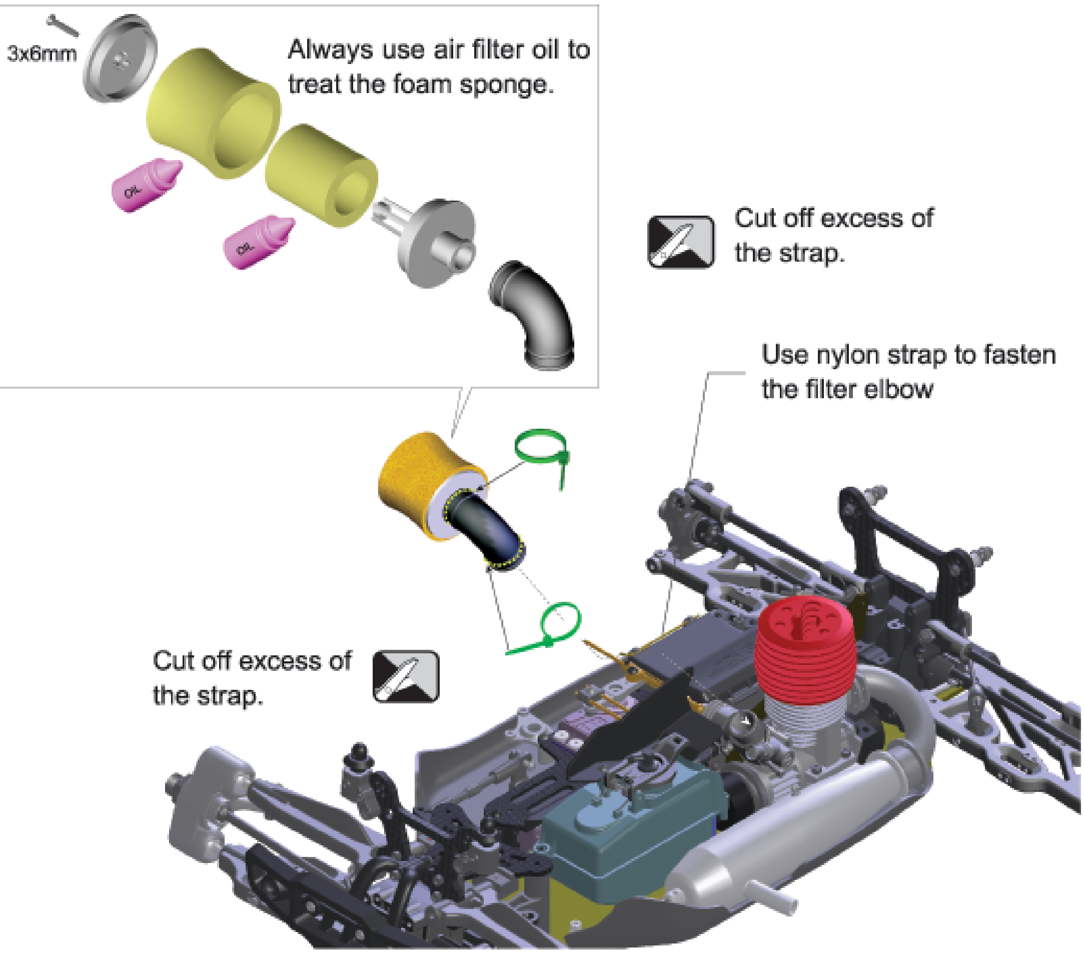
M bag

M3x6mm
Flat Head Hex Screw

OP



9708G	AIR FILTER, 1/8, GREEN
9708O	AIR FILTER, 1/8, ORANGE
9708B	AIR FILTER, 1/8, BLACK
9708Y	AIR FILTER, 1/8, YELLOW



Always use air filter oil to treat the foam sponge.

Cut off excess of the strap.

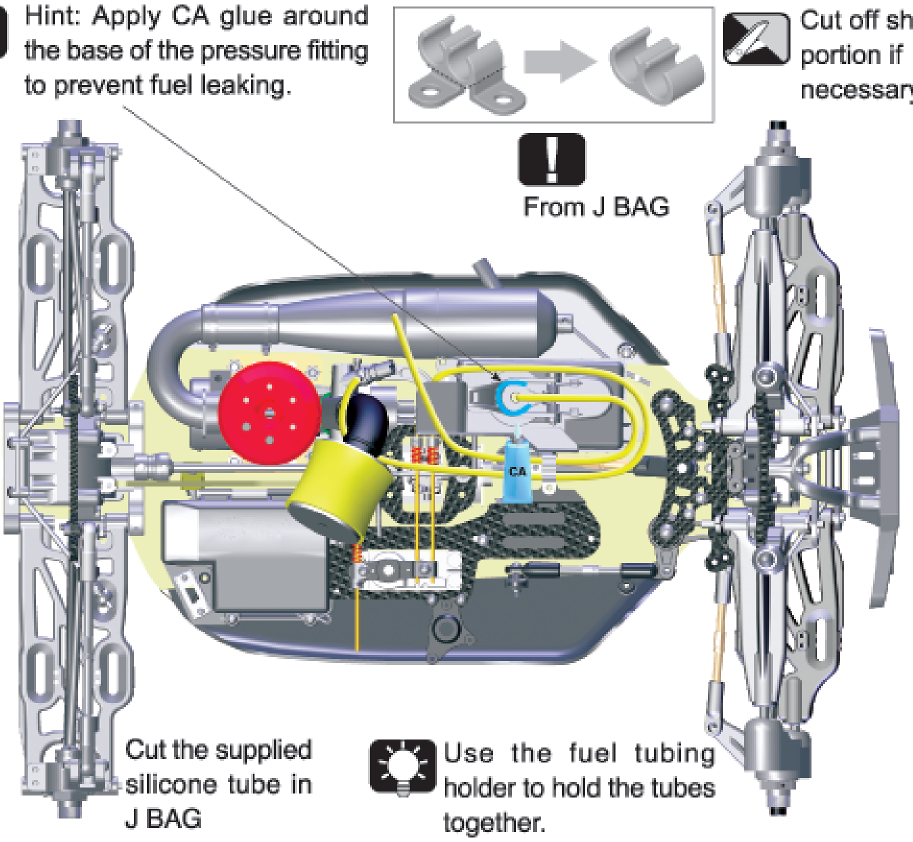
Use nylon strap to fasten the filter elbow

Cut off excess of the strap.

Hint: Apply CA glue around the base of the pressure fitting to prevent fuel leaking.

Cut off shaded portion if necessary.

From J BAG

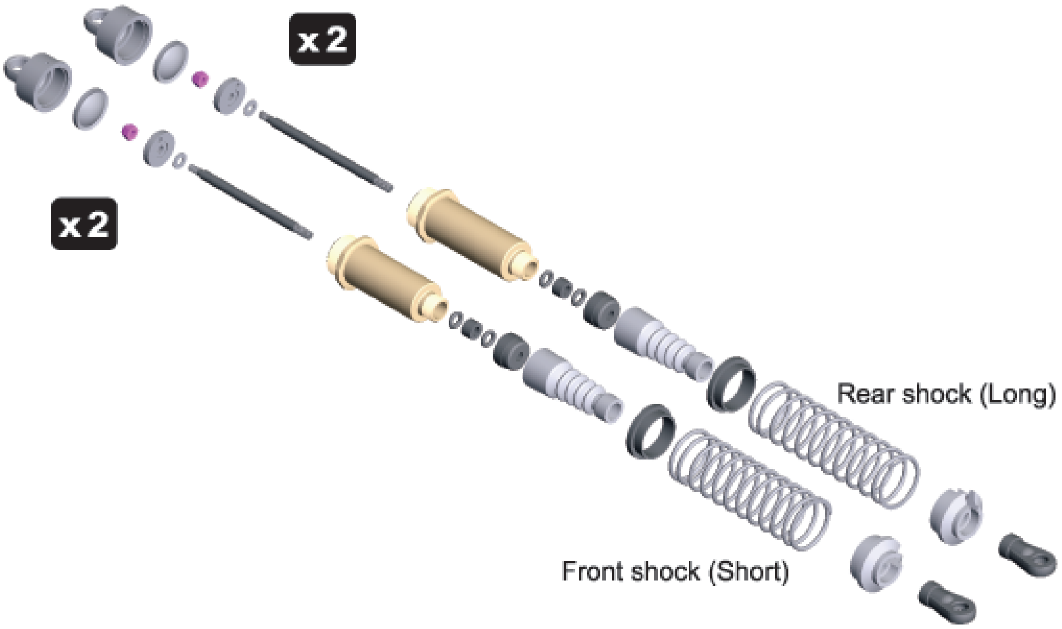


Cut the supplied silicone tube in J BAG

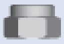
Use the fuel tubing holder to hold the tubes together.

13 SHOCK ABSORBERS

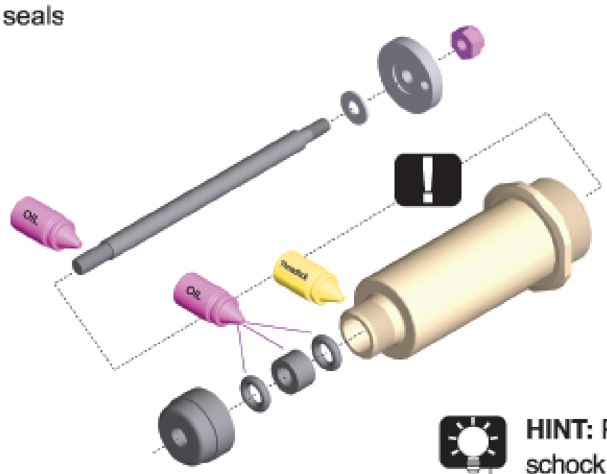
N
bag



13.1


Lock Nut, M2.6

Place a few drop of silicon oil on the tip of the shaft before inserting through the shock body to prevent shaft thread from damaging the o-ring seals



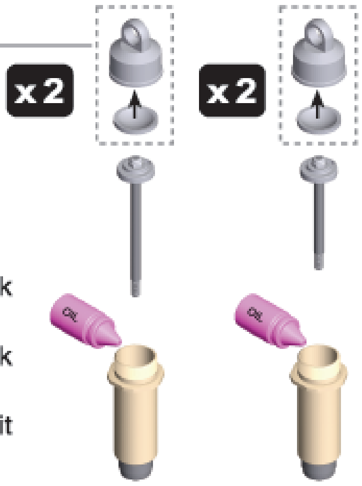
HINT: Place the diaphragm in the schock cup before assembling with shock body.

Recommended

Shock Silicon Oil	
Front 35wt	Rear 50wt

13.2

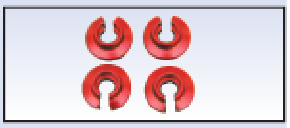
1. Use recommended grade of silicon oil and fill the shock bodies.
2. Move the shaft / piston up & down gently (But never break oil surface)
3. To release any trapped air inside the silicon oil, let it sit for a few minutes for all the air bubbles to be release.



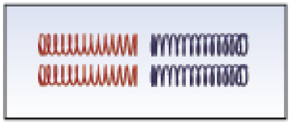
13

13.2

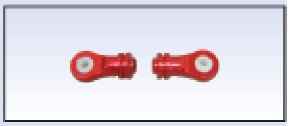
OP



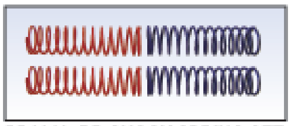
PD1994 ALUM SHOCK SPRING RETAINER, S3 OPT



PD2317 FR SHOCK SPRING SET, ST-1

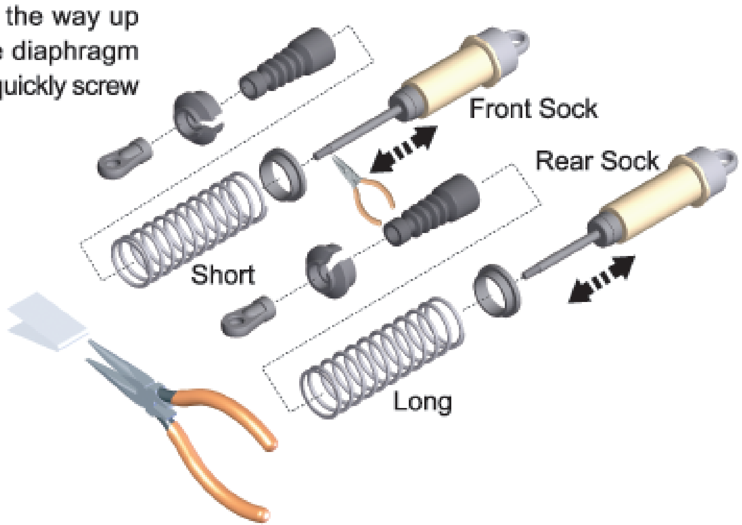


PD1995 ALUM SHOCK BOTTOM, S3



PD2318 RR SHOCK SPRING SET, ST-1

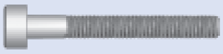
4. Fill the shock bodies all the way up with silicon oil. Place the diaphragm in the shock cap first and quickly screw the cap into place.



Front Sock
Rear Sock
Short
Long

Hint: Use a piece of masking tape to protect the shock shaft.

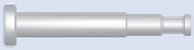
13.3



M3x25mm Socket Head Hex Screw

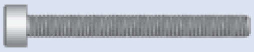
Lock Nut, M3

M3x3mm Set Screw

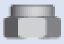


Hinge Pin

13.4

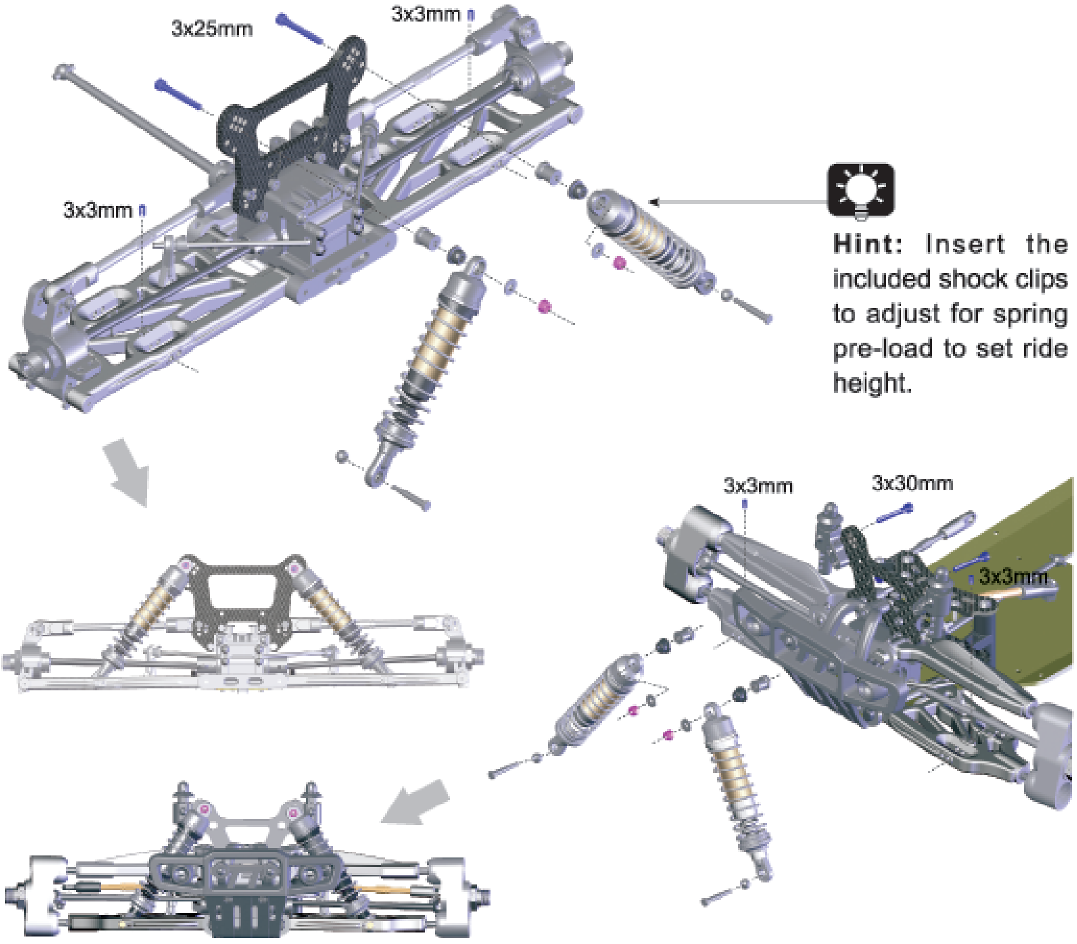


M3x30mm Socket Head Hex Screw



Lock Nut, M3

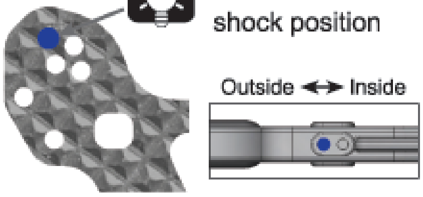
M3x3mm Set Screw



3x25mm
3x3mm
3x3mm
3x3mm
3x30mm
3x3mm

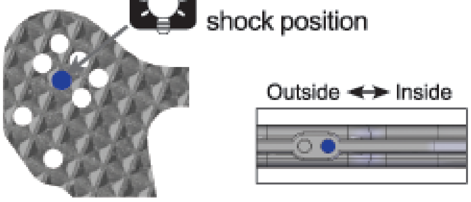
Hint: Insert the included shock clips to adjust for spring pre-load to set ride height.

Initial front shock position



Outside ↔ Inside

Initial rear shock position

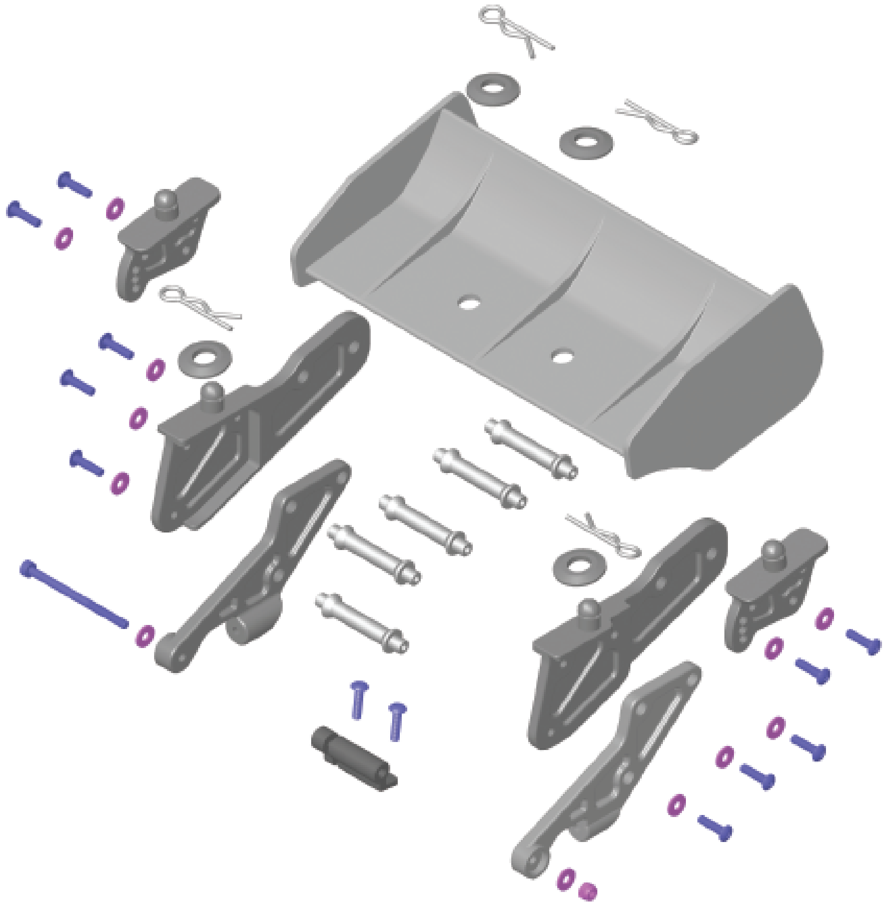


Outside ↔ Inside

14

REAR WING

O bag



14.1

M3x10mm
Button Head Hex Screw

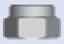
ø3xø8
Special Washer

14.2

M3x10mm
Button Head Hex Screw

ø3xø8
Special Washer

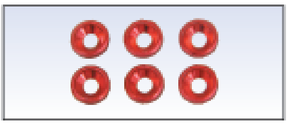
M3x18mm
Socket Head Hex Screw



Lock Nut, M3

M3x45mm
Socket Head Hex Screw

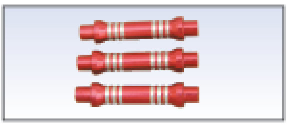
OP



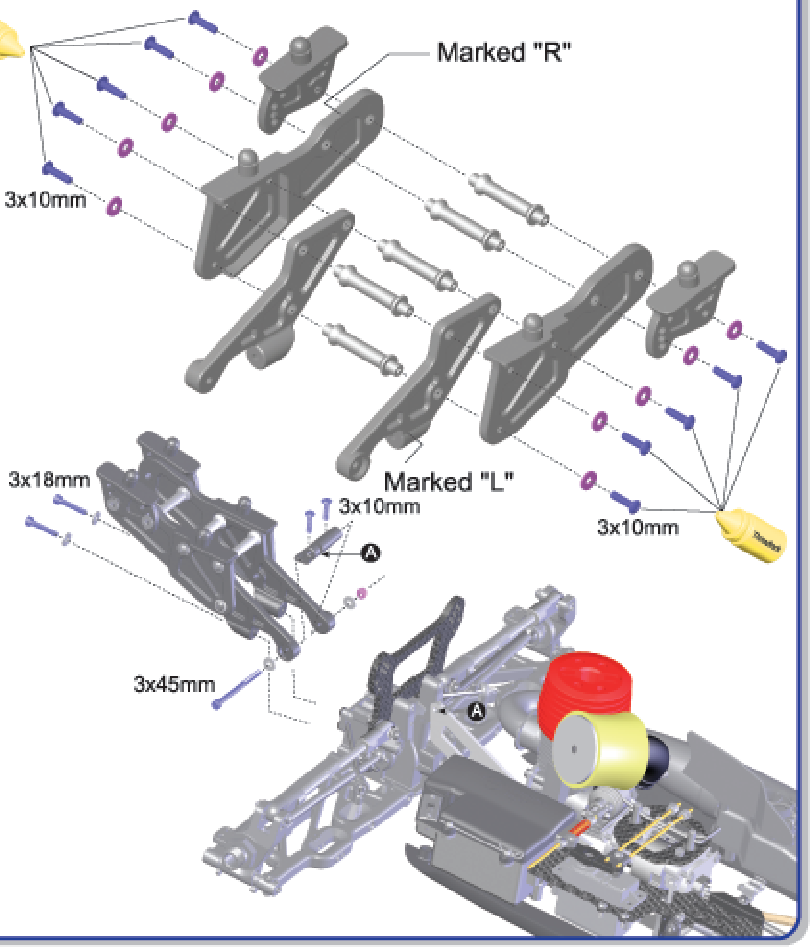
AD2523-R ANODIZED WASHER, OPT

For
AD2523-R

PD0680 CT MACHINE SCREW M3x14mm



PD1862 WING POST, S3 OPT



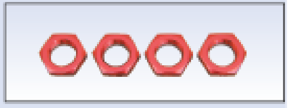
Marked "R"
3x10mm
3x18mm
3x10mm
Marked "L"
3x10mm
A
3x45mm
A

15

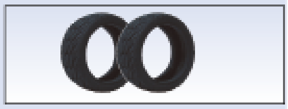
WHEELS AND TIRES

P bag

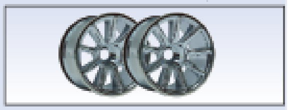
OP



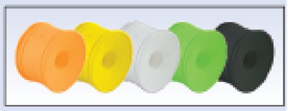
PD1865 LITE SELF-LOCK WHL HEX NUT, 1/8



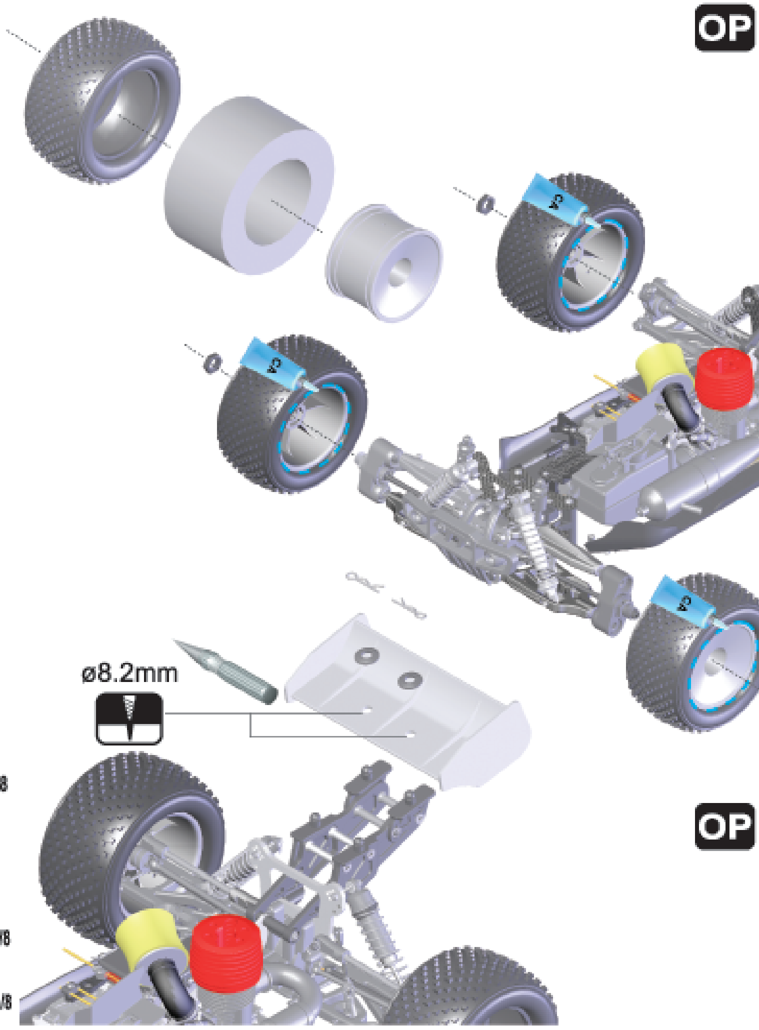
PD0590 TIRE W/FOAM CUBIC, 1/8

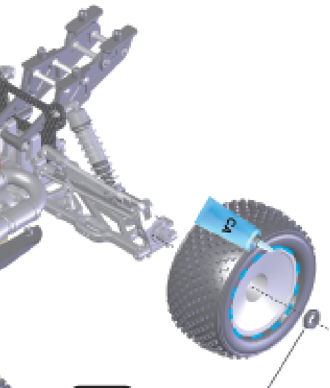


PD6750 5-SPOKE WHL, 17mm CHROME, 1/8

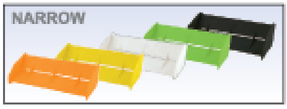


PD2324-W ZERO-OFFSET WHL, WHITE, 1/8
PD2324-Y ZERO-OFFSET WHL, YELLOW, 1/8
PD2324-B ZERO-OFFSET WHL, BLACK, 1/8
PD2324-G ZERO-OFFSET WHL, GREEN, 1/8
PD2324-O ZERO-OFFSET WHL, ORANGE, 1/8





OP

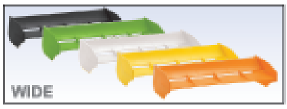


PD2319-Y REAR WING, YELLOW, 1/8
PD2319-B REAR WING, BLACK, 1/8
PD2319-G REAR WING, GREEN, 1/8
PD2319-O REAR WING, ORANGE, 1/8
PD2319-W REAR WING, WHITE, 1/8

! From G BAG

Apply CA glue on the edges of four wheels to adhere the tires.

OP



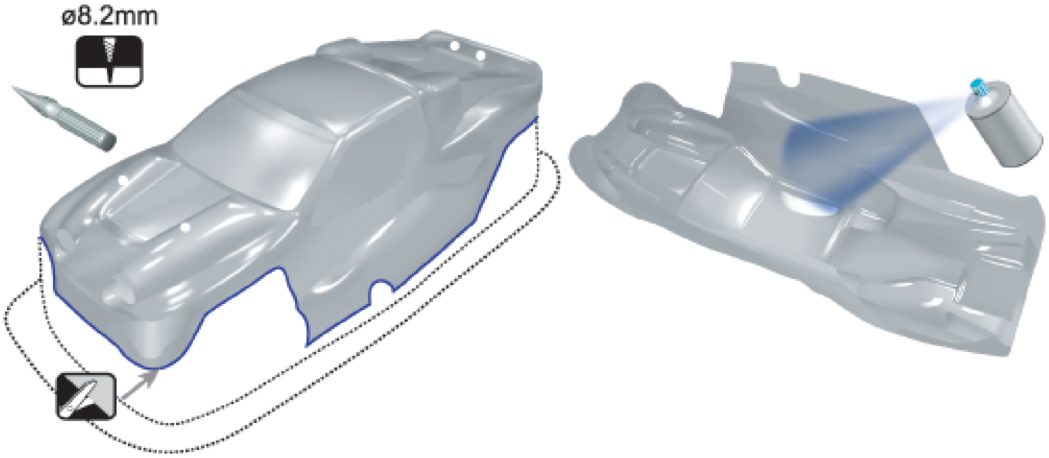
PD1903-Y REAR WING, YELLOW, 1/8
PD1903-B REAR WING, BLACK, 1/8
PD1903-G REAR WING, GREEN, 1/8
PD1903-O REAR WING, ORANGE, 1/8
PD1903-W REAR WING, WHITE, 1/8

16

BODY

Q bag

R bag



1. Use special round scissors or hobby knife to cut out the body around the lines.
2. Wash the inside of body using soap and water to remove residual oil or other goop remains.
3. Mask the windows and then paint the inside of body with special lexan paint.
4. Wait for the paint dry, and then peel off the external protective films.

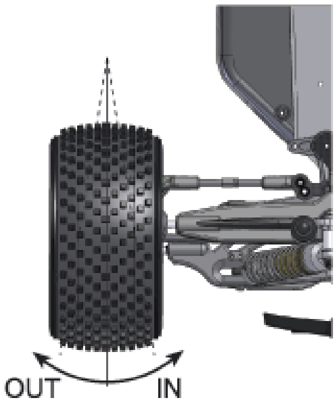
SET UP

Toe Adjustment (Front)

1. Toe Adjustment (Front) Adjust the front toe angle by tuning the length of the left and right steering rod.

Rod length	Steering Characteristics
Tuning longer More front toe-in	• Increases straight-line stability • Makes the steering response milder
Tuning shorter More front toe-out	• Decreases straight-line stability • Makes the steering response quicker

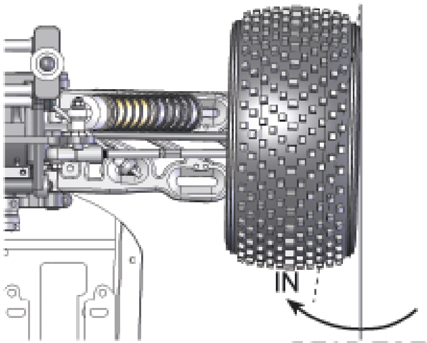
Note: Ensure you adjust either the length of right and left tie rod the same.



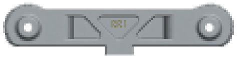
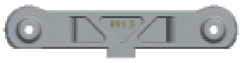
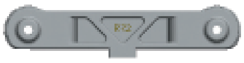
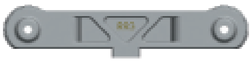
FRONT TOE

Toe Adjustment (Rear)

2. Toe Adjustment (Rear) Adjust the rear toe angle by changing the various toe blocks behind the rear bulkhead. Take out the embedded plastic balls inside of the block length and re-insert to the new toe block. Replace the toe block. There are 4 different blocks that can be chosen for adjustments. Please refer to the table below.



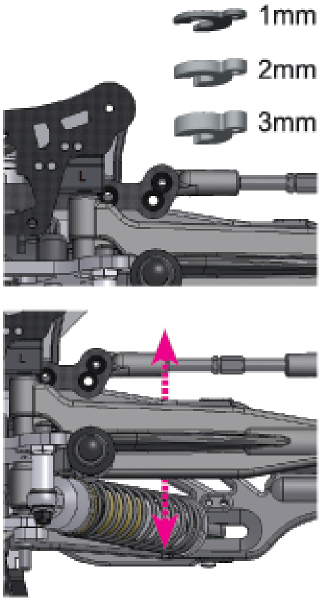
REAR TOE

Block No.	Rear toe-in angle	Steering Characteristics
RR1 	Less rear toe-in (Less grip)	Increases steering but decreases the stability on power when exiting corners.
RR 1.5 	↕	↕
RR 2 		
RR 3 	More rear toe-in (More grip)	Decreases steering but increases stability on power when exiting corners.

SET UP

Caster Adjustment (Front)

Maxsimun Installation: 5mm



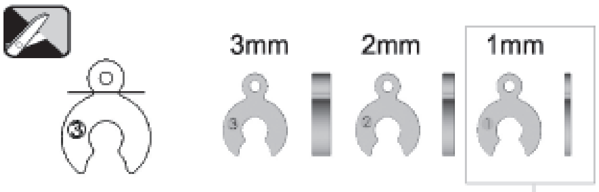
3.Caster Adjustment(Front): Adjust the caster angle by changing the plastic clips (caster shims) in the front upper hinge pin.

	Steering Characteristics
Clips behind upper arm More Caster (Note)	Sharper corner-in, slower corner-exit
Clips in the front of upper arm Less Caster	Slower corner-in, faster corner-exit

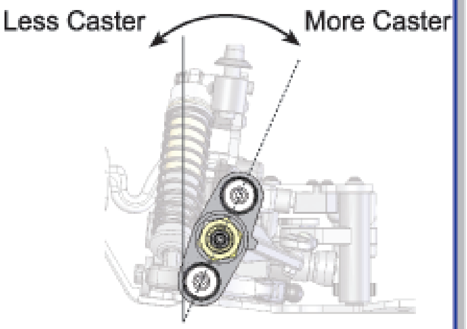
Hint: Using a needle nose pliers to install or reinstall the clips makes the adjustment much easier.

Note1: When putting the clips behind upper arms, cut the ear of the clips to avoid interfering with steering slider.

Note2: Ensure you make equal adjustments on both left and right sides of the car.

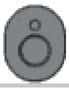
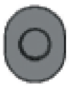
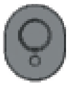


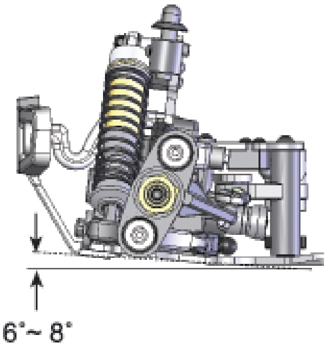
1mm shim for spare use only

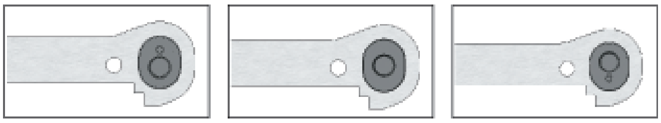


Front Anti-Squat Adjustment

4 Front Anti-Squat: The Front Anti-Squat angle can be adjusted using the different plastic eccentric bushings in the front suspension plate. Please refer to the table below.

Eccentric Bushing	Total	Characteristics
FF-1 	6°	Decreases steering response. Good handling on bumpy tracks.
FF0 	7°	↕
FF1 	8°	Increases steering response. Good handling on smooth tracks



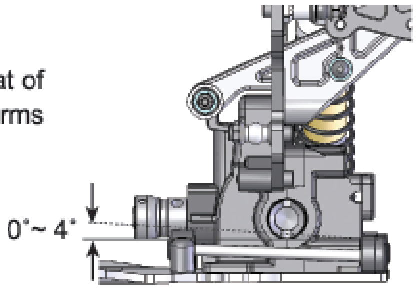


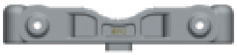
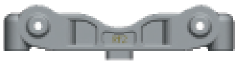
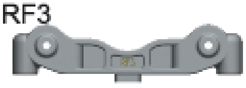
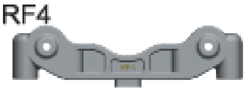
Note: Ensure you make equal adjustments on both left and right sides of the car.

SET UP

Rear Anti-Squat Adjustment

5.Rear Anti-Squat Adjustment: Adjust the rear anti-squat of the rear lower arms by replacing the different plastic arms suspension holders at the front of the rear bulkhead.

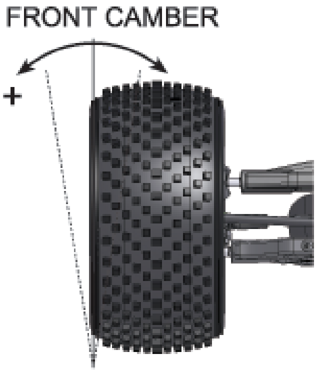


Rear susp. arm holders	Characteristics
RF 0 	Less anti-squat, flat arm Increases rear traction when cornering Decrease rear traction when accelerating. Easy handling on bumpy tracks
RF2 	↕
RF3 	More anti-squat, leaning backwards Decreases rear traction when cornering Increases rear traction when accelerating Easy handling on smooth or slippery tracks
RF4 	

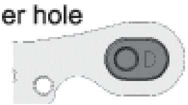
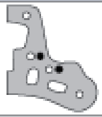
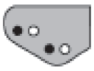
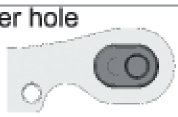
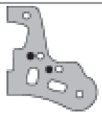
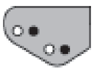
Camber Adjustment (Front)

6.Camber Adjustment(Front): Adjust the front camber by adjusting the lengths of threaded parts of the front pivot balls in the upper arms longer or shorter.

Length(L)	Steering Characteristics
Making longer. Positive camber.	Less steering
Making shorter. Negative camber.	More steering



Note1: To expanding the adjusting range of the front camber, you can also change the eccentric bushing in the upper plate at the very front of the front bulkhead and the mounting holes of hinge holders on the servo saver top plate.

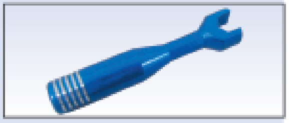
Eccentric bushings	Servo saver top plate		Camber adjusting range of the front camber
Inner hole 			More camber adjustment
Outer hole 			Less camber adjustment

Note2: Ensure you make equal adjustments on both left and right sides of the car.

SET UP

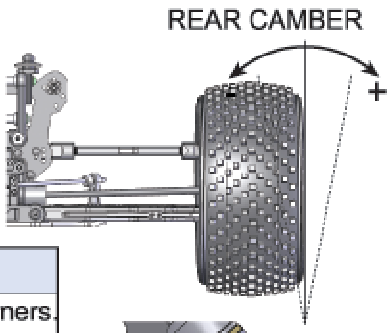
Camber Adjustment (Rear)

OP



PD0399 ALUM TURNBUCKLE WRENCH, 5mm

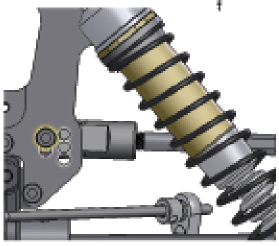
7.Camber Adjustment(Rear): Adjust the rear camber by adjusting the lengths of the upper tie rods.

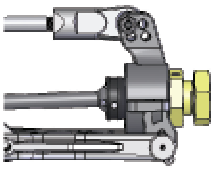


Length(L)	Steering Characteristics
Making longer. Positive camber.	Decreases traction when entering corners.
Making shorter. Negative camber.	Increases traction when entering corners

Note1: You can also adjust the rear camber by positioning the rear upper tie rods in the different holes in the shock towers and outer rear hubs. For more information, please refer to the "Set-Up Sheet" in a separate sheet.

Note2: Ensure you make equal adjustments on both left and right sides of the car.

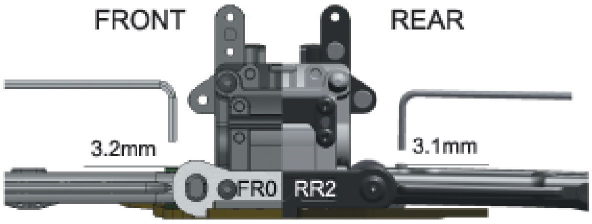




Ride Height (or Droop) Adjustment

8.Ride Height (or Droop) Adjustment: The front/rear ride height can be adjusted by screwing in or unscrewing the setscrews in the lower arms.

Setscrews	Ride height	Characteristics
Screwing in	Becomes lower	Less steering, good handling on smooth tracks
Unscrewing	Becomes higher	More steering, good handling on rough tracks



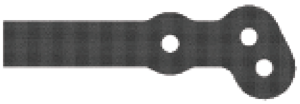
Initial Setting

Ackerman Adjustment

9.Ackerman Adjustment: Adjust the Ackerman angle by linking the front steering rods into the different holes on the steering slider.

Steering tie-rod mounting holes	Characteristics
Forward holes	Makes the steering response milder Suitable for high speed race way.
Rearward holes	Makes the steering response sharper. Suitable for narrow, tight tracks

Note: Ensure you make equal adjustments on both left and right sides of the car.



Ackerman Position

ST-1 SET UP SHEET

Name of Driver	Date	Track	Radio	Servo	Engine	Plug

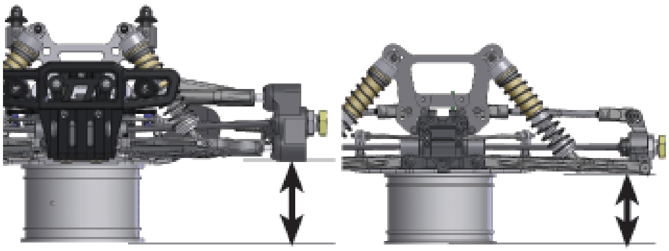
Fuel	Spur/ Clutch Bell	Wheels	Tires	Inner	Muffler
Brand: Nitro: %	T/ T				

DIFF. OIL

	Front	Center	Rear
Oil	#	#	#

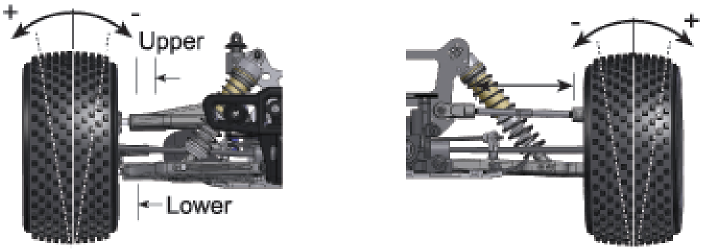
REBOUND STOP

Front	Rear
mm	mm



CAMBER ANGLE

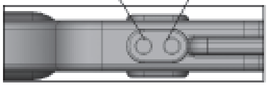
Front	Rear
___ ˚Upper ___ mm, ___ ˚Lower ___ mm	___ ˚ ___ mm



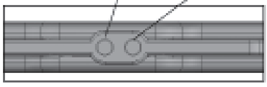
SHOCK MOUNT POSITION

Arm Mounting

Front ☐ IN ☐ OUT

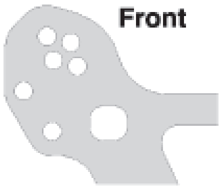


Rear ☐ IN ☐ OUT

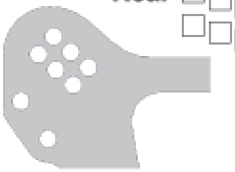


Tower Mounting

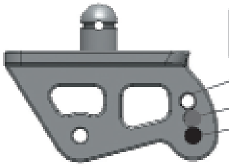
Front ☐ ☐ ☐ ☐



Rear ☐ ☐ ☐ ☐ ☐ ☐



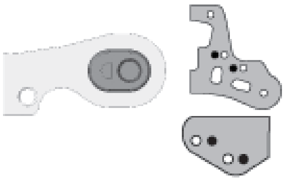
WING ANGLE



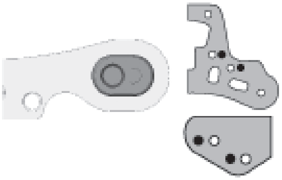
☐ **Upper** ☐ **Middle** ☐ **Lower**

FRONT ARM MOUNTING

☐



☐



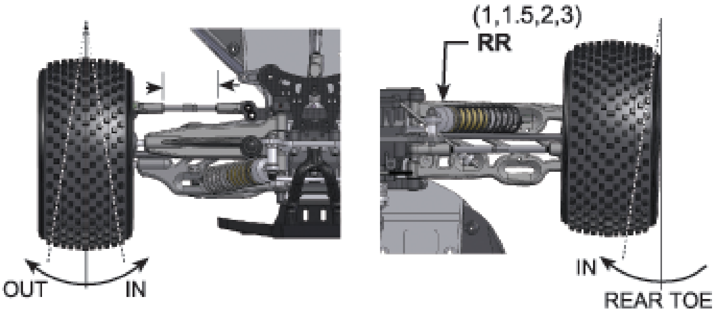
SHOCKS

(Shock Oil Brand: ______________)

	Front	Rear
Shaft Type	☐ Std ☐ Other: _____	☐ Std ☐ Other: _____
Piston	☐ ø1.4 ☐ Other: _____	☐ ø1.4 ☐ Other: _____
Piston Ball	☐ 0 ☐ 1 ☐ 2	☐ 0 ☐ 1 ☐ 2
Oil	#	#
Spring	☐ Blue: Softer(3.2lb) ☐ Red: Average(4.3lb) ☐ Black: Harder(5.2 lb)	☐ Blue: Softer(2.7lb) ☐ Red: Average(3.2lb) ☐ Black: Harder(4.5lb)
Spacer	mm	mm

TOE ANGLE

Front	Rear
_____ ˚ _______ mm	☐ 1 , ☐ 1.5 , ☐ 2 , ☐ 3



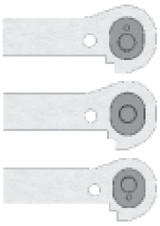
FRONT/ REAR SUSPENSION HOLDER

Front

☐ FF-1

☐ FF0

☐ FF1



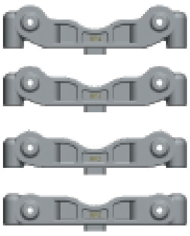
Rear

☐ RF0

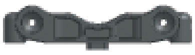
☐ RF2

☐ RF3

☐ RF4



FR

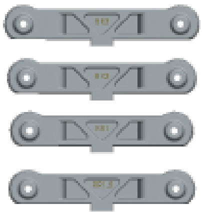


☐ RR1

☐ RR1.5

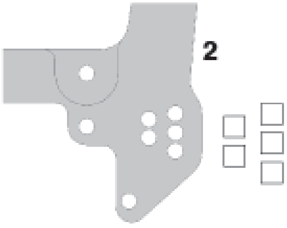
☐ RR2

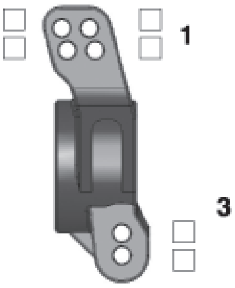
☐ RR3



REAR UPPER ARM POSITION

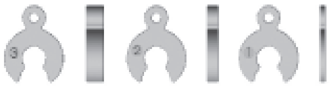
1. Rear Hub Position
2. Upper Arm Position
3. Upright Pin Position

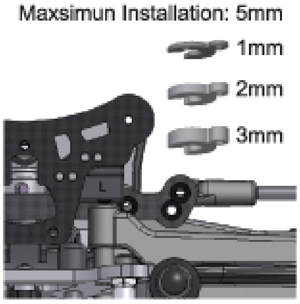




FRONT CASTER

Spacer: Max. 5mm	
Front:	mm
Rear:	mm





RACE NOTE

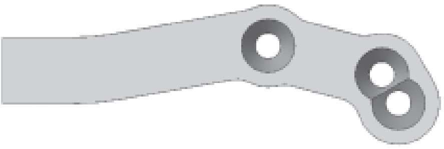
Main: ____________ Place ☐ TQ ____________

Notes: ______________________________

STEERING PLATE

A: Front

B: Rear



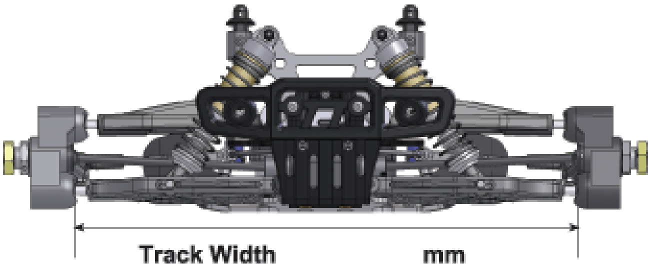
☐ **A**

☐ **B**

SWAY BAR

Front	Gold ø3	Black ø2.7	Silver ø2.5
Rear	Gold ø3	Black ø2.7	Silver ø2.5

TRACK WIDTH



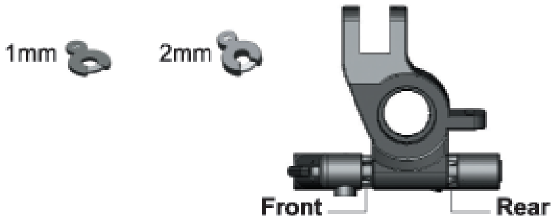
Track Width ____________ mm

WHEELBASE ADJUSTMENT

Spacer:

Front: ☐ 1mm ☐ 2mm ☐ 3mm

Rear: ☐ 1mm ☐ 2mm ☐ 3mm



TRACK CONDITIONS

Surface: ☐ Smooth ☐ Bumpy

Bumps: ____________

Traction: ☐ Low ☐ Med ☐ High

Composition: ____________

☐ Sandy ☐ Soft Dirt ☐ Grass ☐ Clay ☐ Other

☐ Wet ☐ Dry ☐ Dusty ☐ Other